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THE BRITISH CONSTRUCTIONAL ENGINEER AND THE CONTRACTOR

No. 4,288 83rd YEAR

THURSDAY, AUGUST 31, 1961

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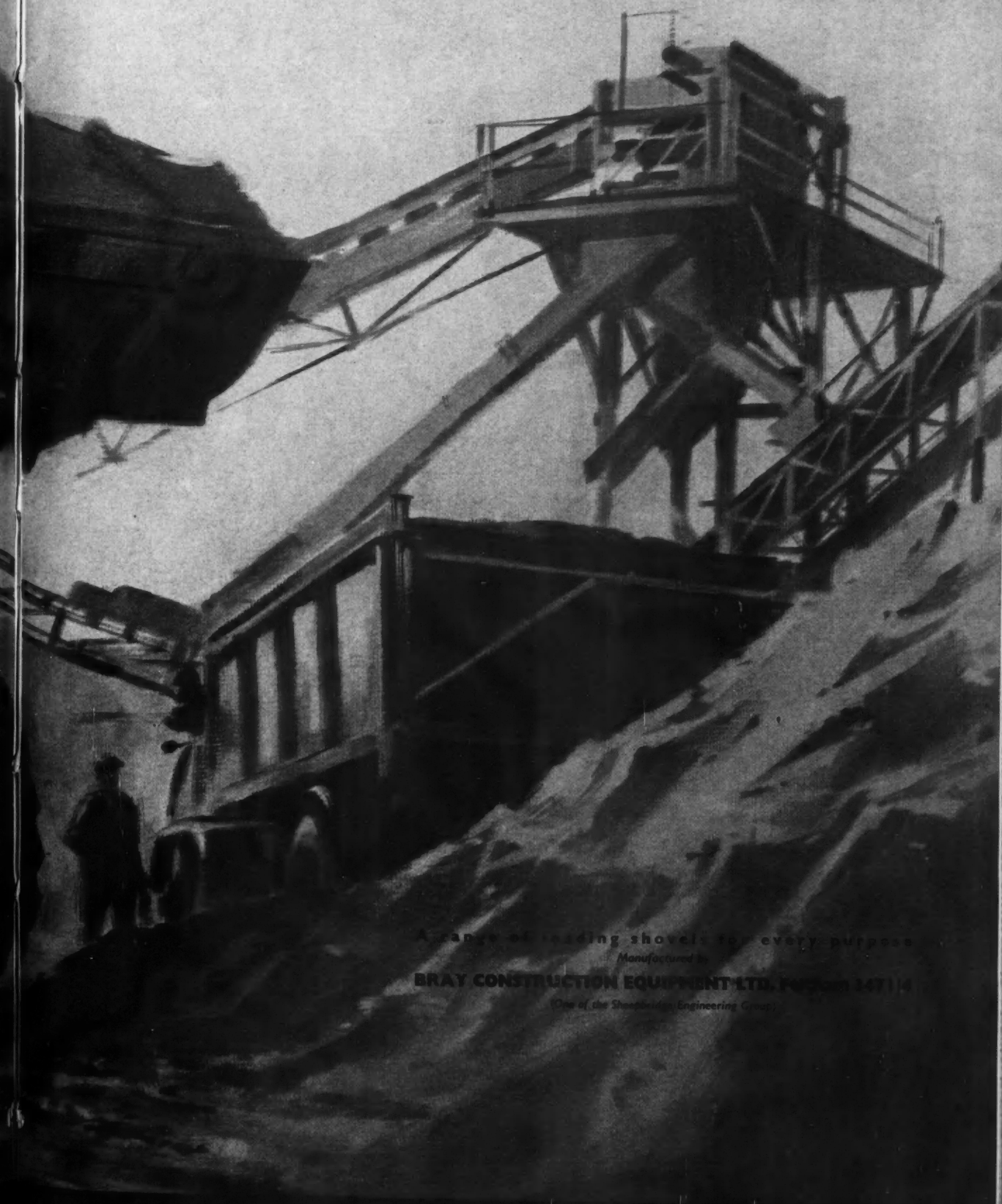


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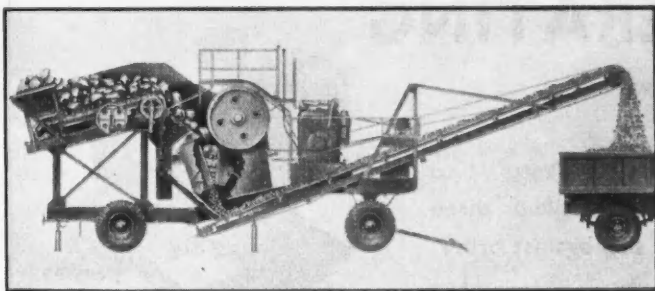
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Single-pass gravel crushing and screening plant in sizes giving mixed gravel and sand or sand, gravel, crushed gravel and sand... separately or mixed as required. Outputs up to 300 tons an hour.



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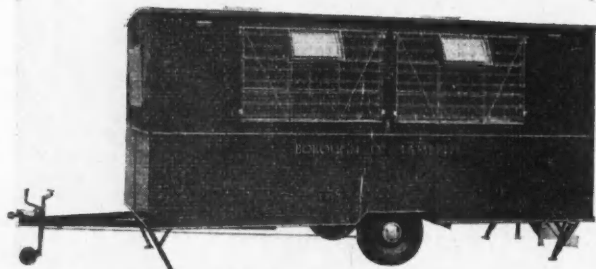
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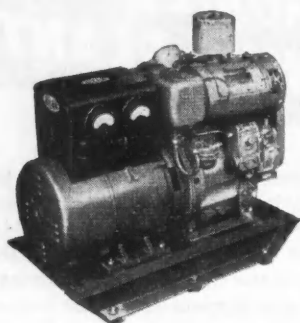
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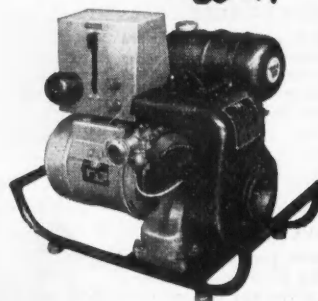
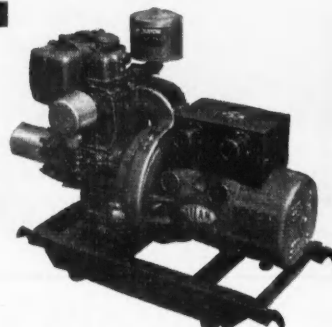
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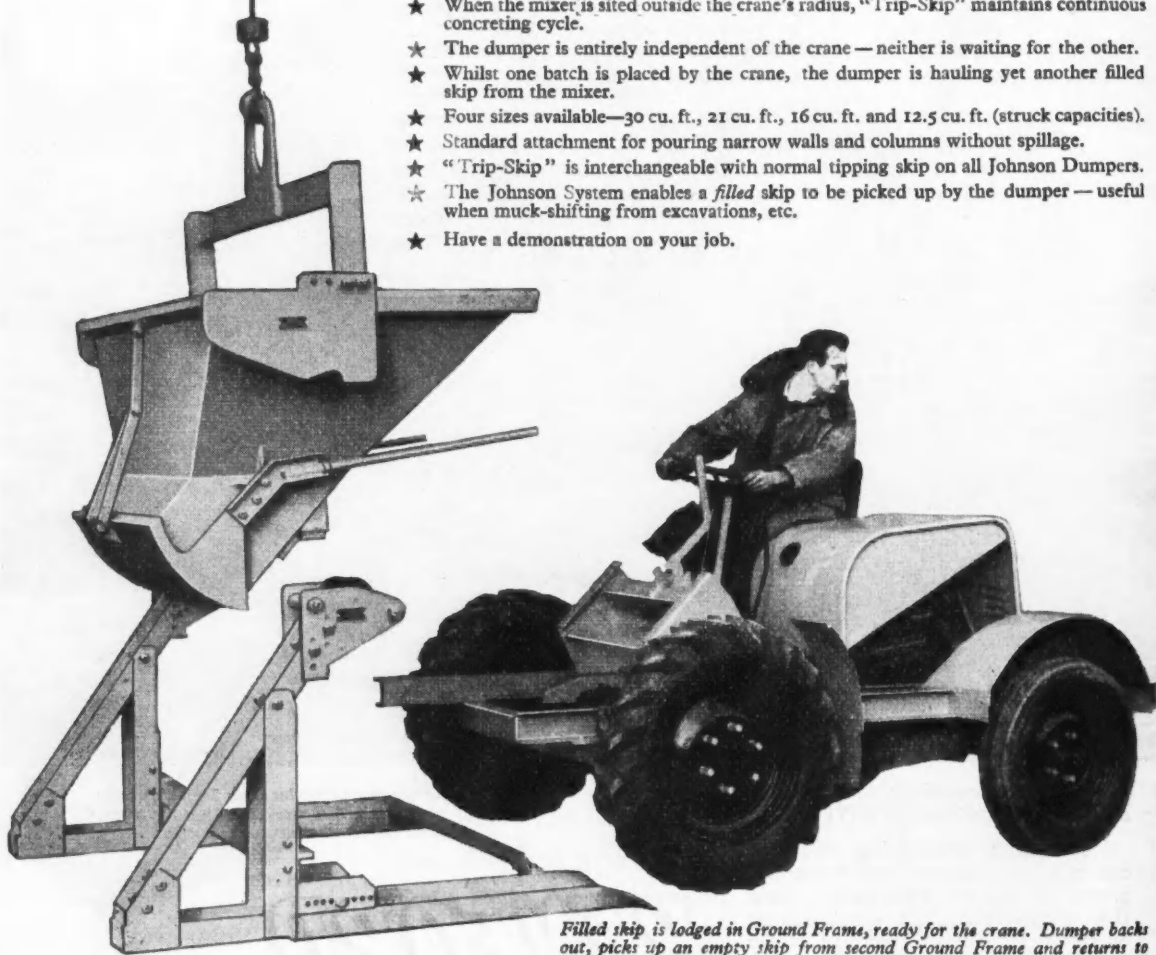
JOHNSON 'TRIP-SKIP'

MULTI-SKIP HANDLING WITH STANDARD JOHNSON DUMPERS

The "Trip-Skip" gives maximum flexibility to site organisation. A simple sequence can be established whereby the dumper and crane work as a team — neither waiting for the other.

Both full or empty skips can be collected or deposited by the dumper.

- ★ When the mixer is sited outside the crane's radius, "Trip-Skip" maintains continuous concreting cycle.
- ★ The dumper is entirely independent of the crane — neither is waiting for the other.
- ★ Whilst one batch is placed by the crane, the dumper is hauling yet another filled skip from the mixer.
- ★ Four sizes available—30 cu. ft., 21 cu. ft., 16 cu. ft. and 12.5 cu. ft. (struck capacities).
- ★ Standard attachment for pouring narrow walls and columns without spillage.
- ★ "Trip-Skip" is interchangeable with normal tipping skip on all Johnson Dumpers.
- ★ The Johnson System enables a filled skip to be picked up by the dumper — useful when muck-shifting from excavations, etc.
- ★ Have a demonstration on your job.



Filled skip is lodged in Ground Frame, ready for the crane. Dumper backs out, picks up an empty skip from second Ground Frame and returns to mixer for another batch.

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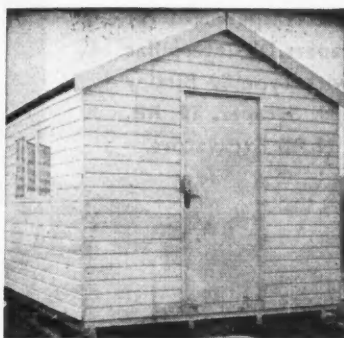
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(Top left)

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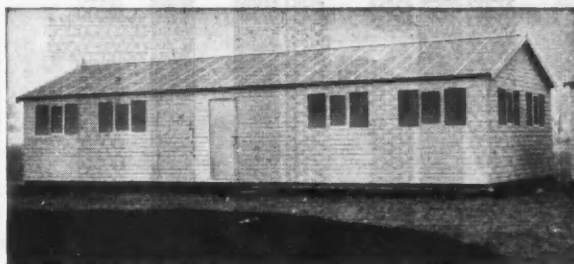
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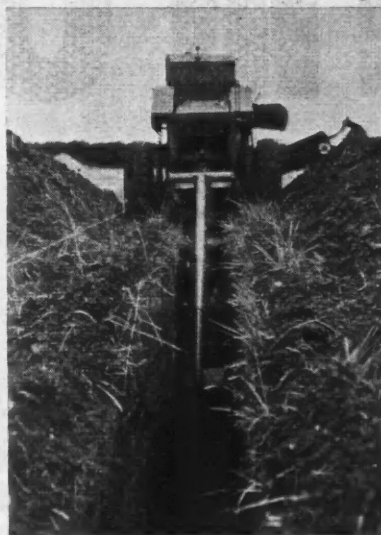
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THE NEW ARPS TRENCH DEVIL MODEL L-12

- DEPTH OF DIG: maximum 5' 6"
- TRENCH WIDTHS: 2", 4", 6", 8", 10" and 12"
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- DIRT DISPOSAL: conveyor type may be put on either side quickly.
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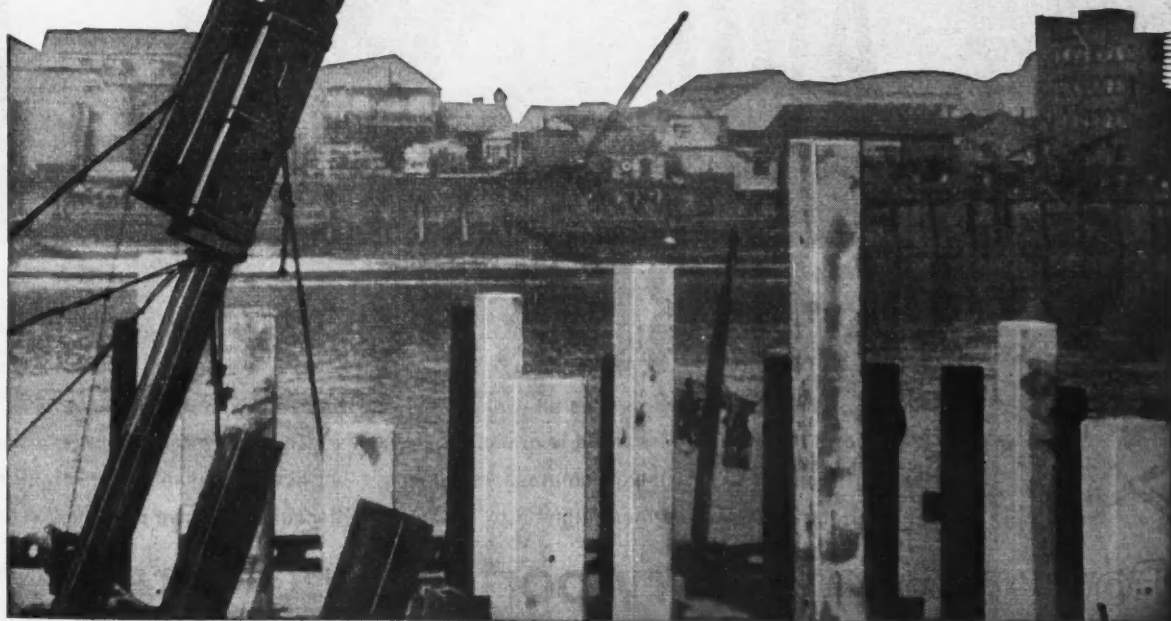
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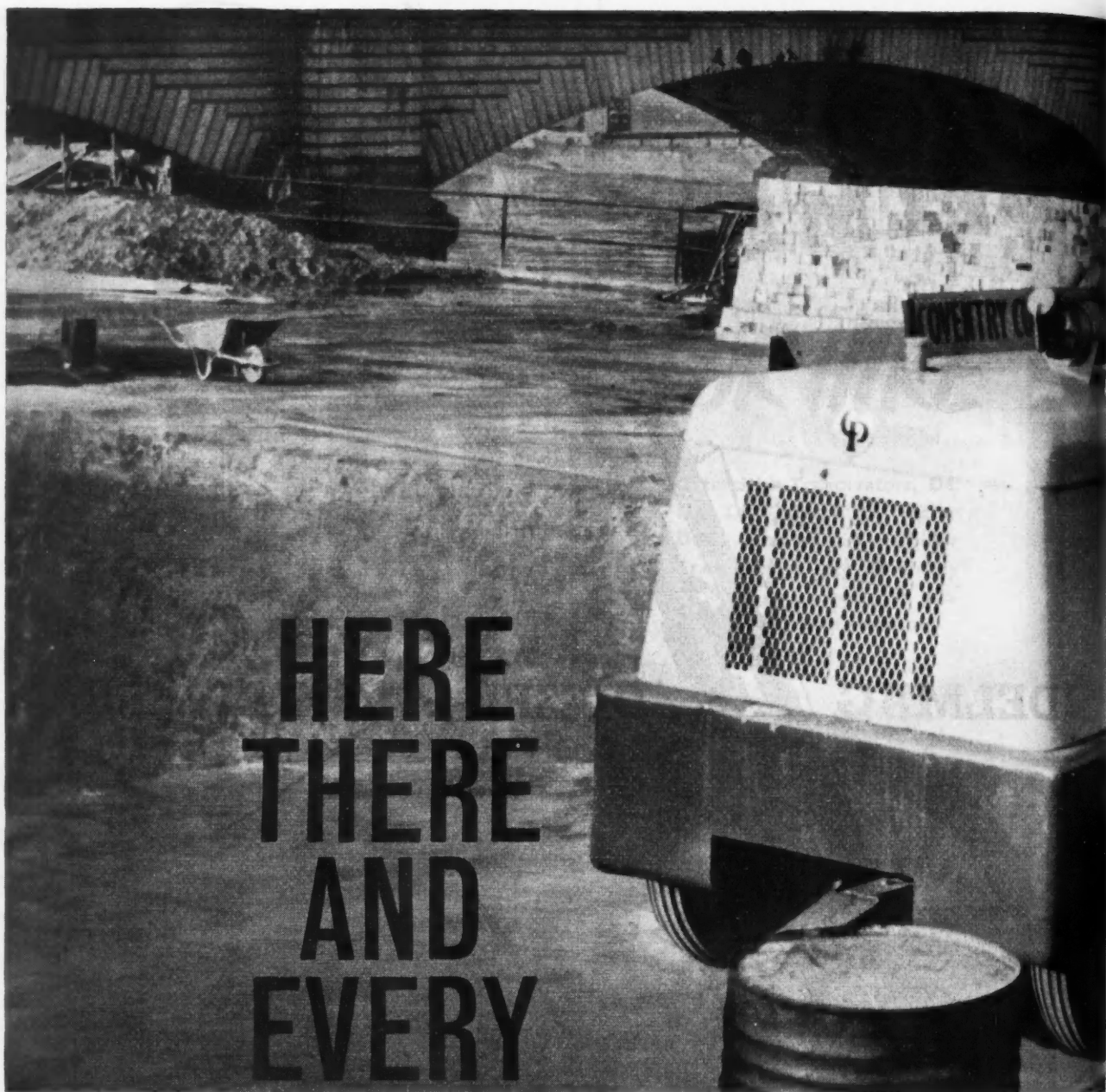
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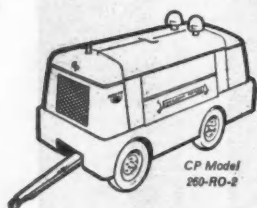
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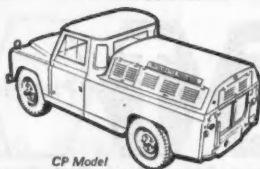
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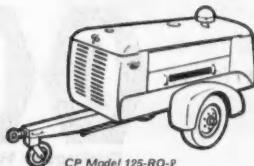
"Power Vane" rotary portable compressors



CP Model 216-RO-2



CP Model
125-RO-2 Land Rover mounted

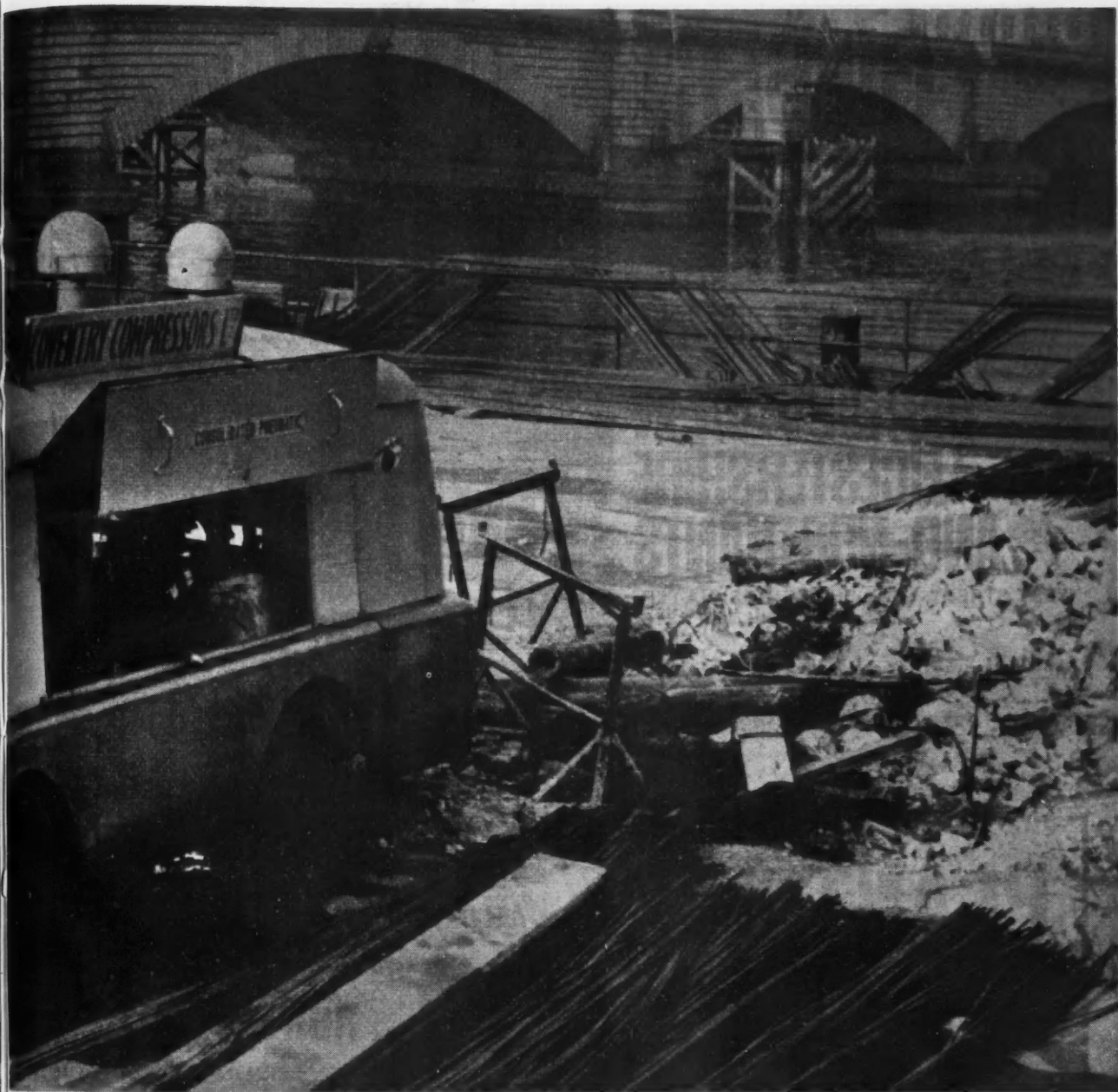


CP Model 125-RO-2

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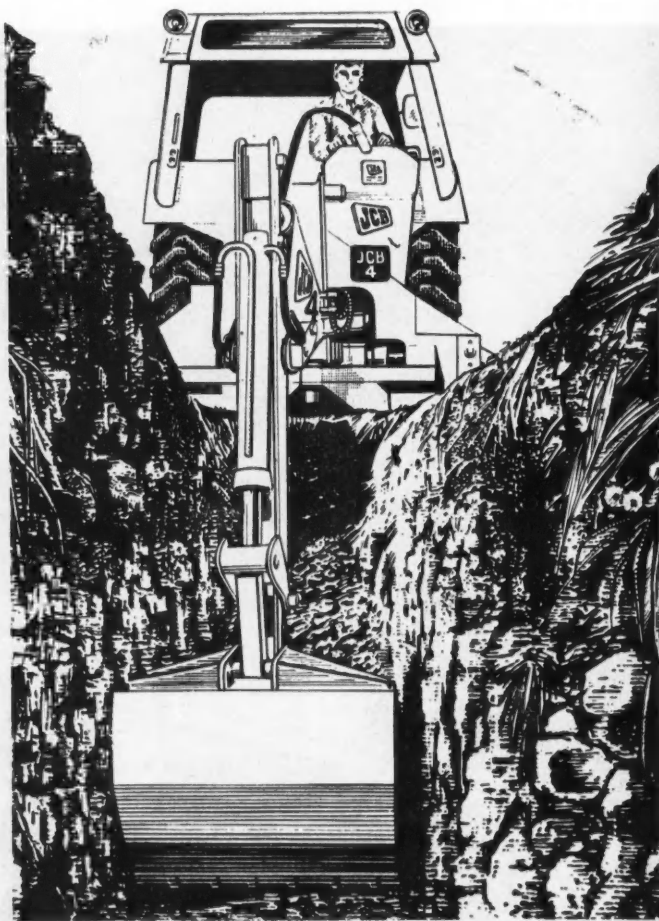
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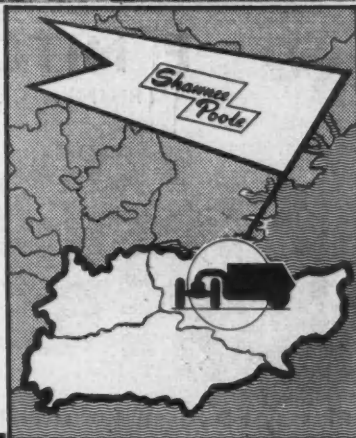
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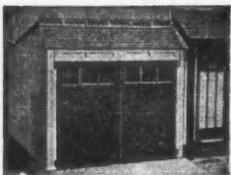
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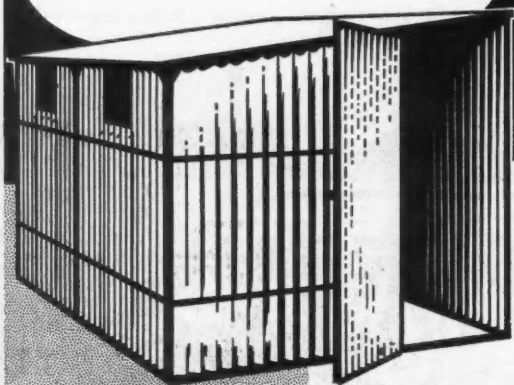
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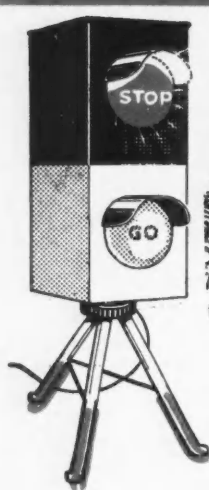
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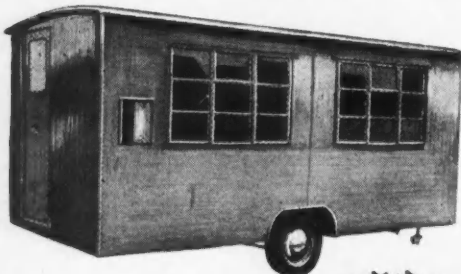
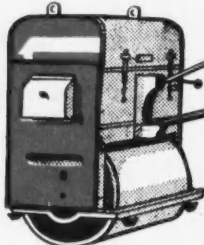
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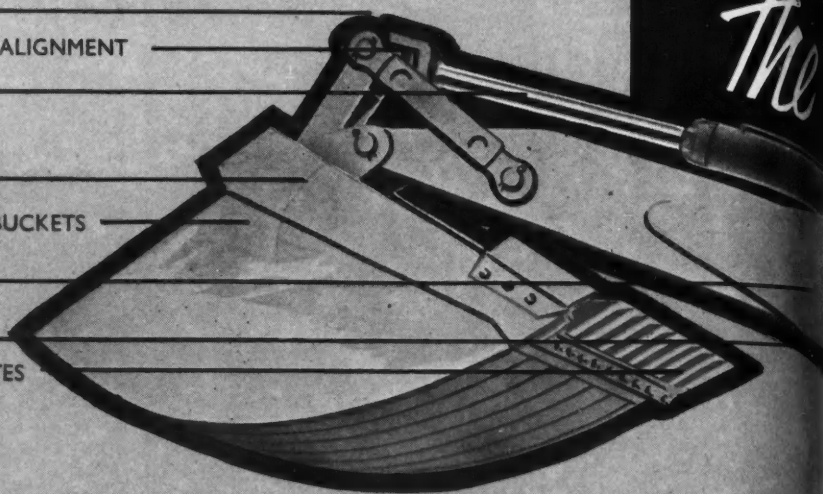
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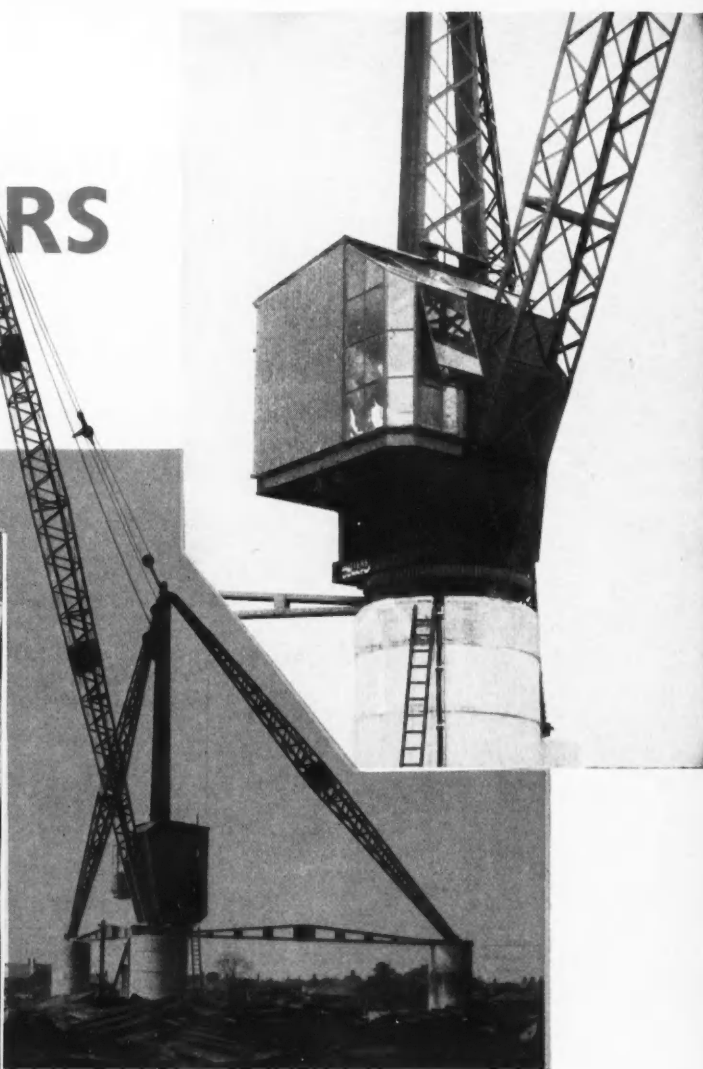


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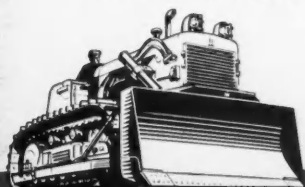


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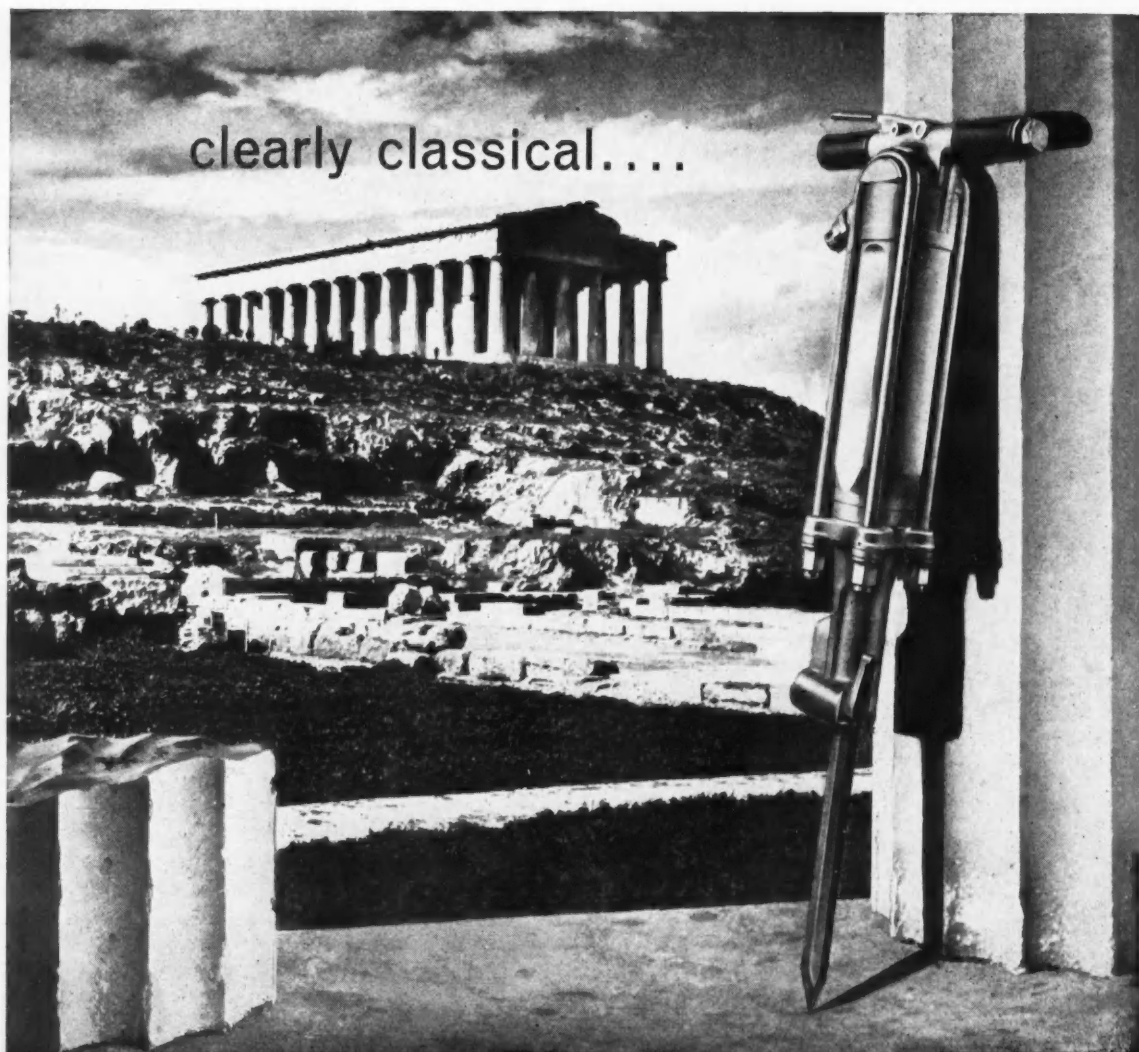
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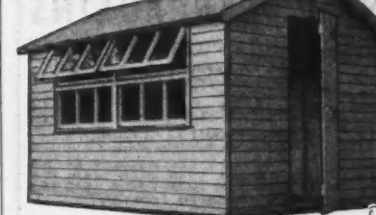
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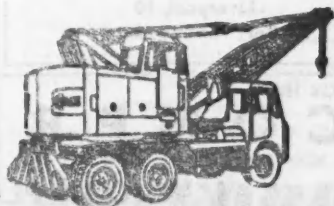
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Pington P15 TOWER CRANE, new 1959, rail mounted, little used, £1,925.
TD18A TRACTOR, Gar Wood Scraper/Winch, £750.
Birtley 80 SCRAPER, tyres 80 per cent, £2,150.
DRAGLINE EQUIPMENT for Ransomes-Rapier 424. Virtually unused and in exceptional condition, £345.

AXWORTHY AND COMPANY, LTD.,
Straight Road, Old Windsor, Berks.
Telephone: Windsor 3434 or 3384.
Telegrams: Axworthy, Windsor.

FOR SALE, 3 cu. yd. Horizontal Rapier TRUCK MIXER, on Foden chassis.—**WILLIAM G. SEARCH, LTD.,** Whitehall Road, Leeds, 12. Tel. 639081 (10 lines).

FOR SALE or HIRE, Latest type AIR LOCKS, L.P. COMPRESSORS and MEDICAL LOCK for caisson sinking.—**A. E. FAIR (PLANT HIRE), LTD.,** Westbury, Wilts. Tel. 356.

FOR SALE, New 24ft. CHANNEL JIB, complete, for Jones KL44 Crane.—Tel.: Burnley 4507.

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OFFER FOR HIRE:

N.C.K. 304 8-ton CRAWLER CRANE, with 70ft. Boom and Fly Jib.
NEALS QM 4/6-ton capacity MOBILE CRANES, jibs from 24/60ft., heavy duty pneumatics. With Grab if required.
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JONES KL44 3/4-ton capacity CRAWLER-MOUNTED CRANES, 24ft. Channel to 40ft. Lattice jibs, with 10ft. Jury jibs.
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CONCRETE MIXERS, 5/3½, 7/5, 10/7, 14/10 and 21/14 cu. ft. capacity, Diesel-powered, high or standard discharge, with Integral Weighgear and Hand Scrapers.
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DROTT and ALLIS-CHALMERS HD5G TRACTOR-SHOVELS.
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ROLLERS, 6½cwt., vibrating, to 10-ton capacity.
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**MOORE'S WELDING
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Lincoln 300 amp portable diesel.

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OFFER FOR IMMEDIATE HIRE:
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STEEL SHEET PILES, Sections 1, 2 and 3. Various lengths.

22RB, with Dragline and 70ft. Crane Equipment.
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KL44 MOBILE CRANES, Jibs up to 50ft., pneumatics or tracks.

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Johnson 1 cu. yd. and 1½ cu. yd. Diesel DUMPERS.
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Ruston DIESEL LOCOMOTIVE, 2ft. gauge, 25/30-h.p.
5-ton DIESEL DERRICK, with 120ft. Jib and Bogies.

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Test certified before despatch.
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3-ton Taylor Jumbo Diesel/Hydraulic, pneumatics, 1½yd. Hydraulic Grab.

2-ton Neals NM. Ruston Diesel, pneumatics, 30ft. Jib.

2-ton Jones KL22, Diesel, pneumatics, 24ft. Jib.
20ST Record Tower Crane, self erecting, pneumatic tyres, 8cwt. at 34ft. radius.

2-ton Rapier 410, Perkins Diesel, tracks, 28ft. Jib.
Agents for New Cranes of all types.

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MODERN PLANT FOR HIRE, with experienced operators and backed by an efficient service organisation.

EXCAVATORS ½, ¾ and 1½ cu. yd.
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DUMPERS, ½ to 4 cu. yd., Diesel.

ROAD ROLLERS, 1 to 12 tons.

COMPRESSORS—Mobile and Portable, with every type of equipment.

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CONCRETE MIXERS 5/3½ to 14/10 cu. ft.

PUMPS, 1½in. to 6in., Diesel.

Earth Hammers, Hoists, Cranes, Mortar Pans, Kango Hammers, Roadforms, Traffic Lights, Scaffolding, and most types of Contractors' Plant.

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1960 Ford 17-ton Trader 108" W.B.
7 cu. yds. tipper. Anthony Hoist steel body and gear. Well maintained by careful operator. Choice of two. £775

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Diesel fitted with coachbuilt double dropside body 16' long and headboard to top of cab. Tyres 8.25 x 20 14 ply. £650

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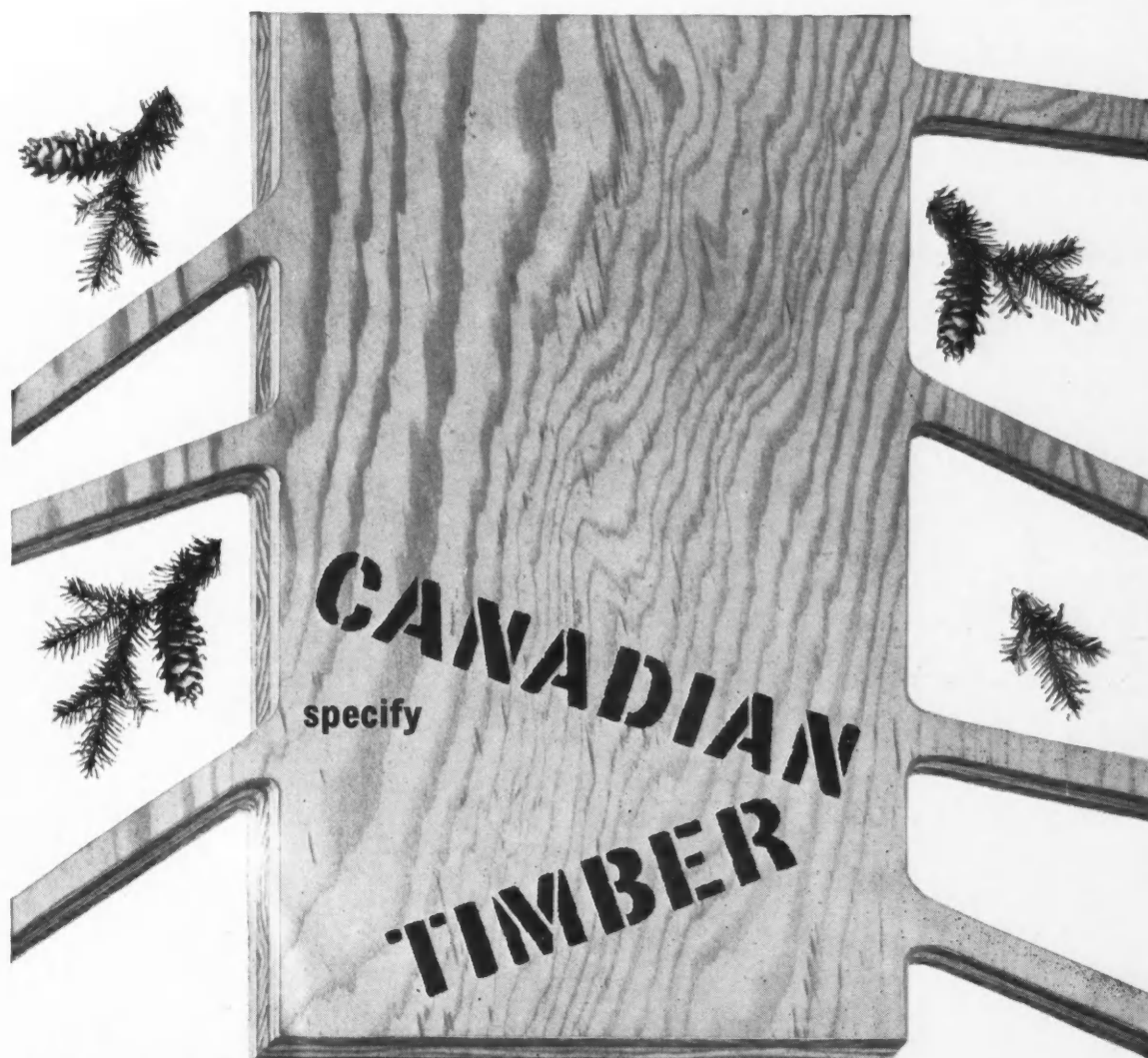


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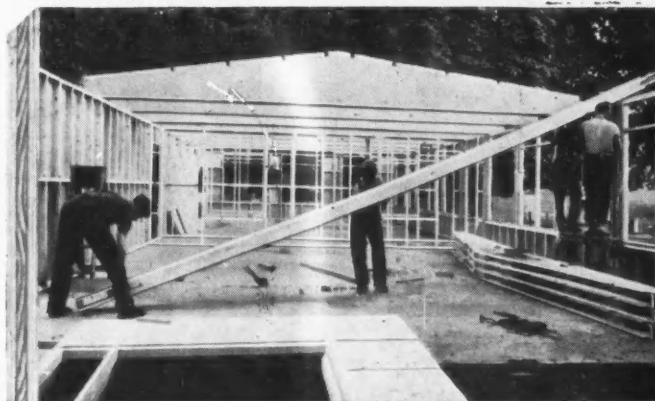
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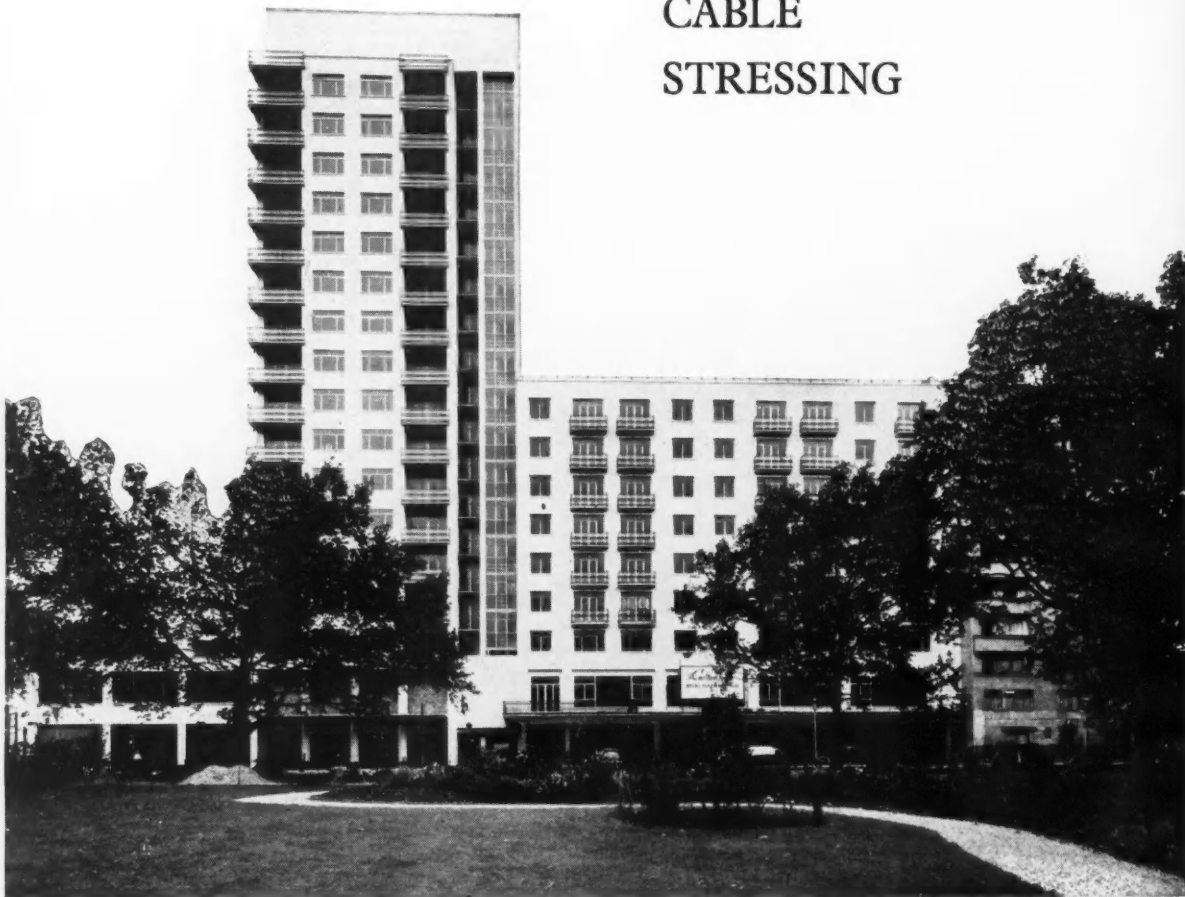
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18 storeys—18 months!

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THE first use of multistrand cables stressed in one operation in this country was in the building of the Carlton Tower Hotel.

The method created a great deal of interest: much more is likely to be heard of it in the future.

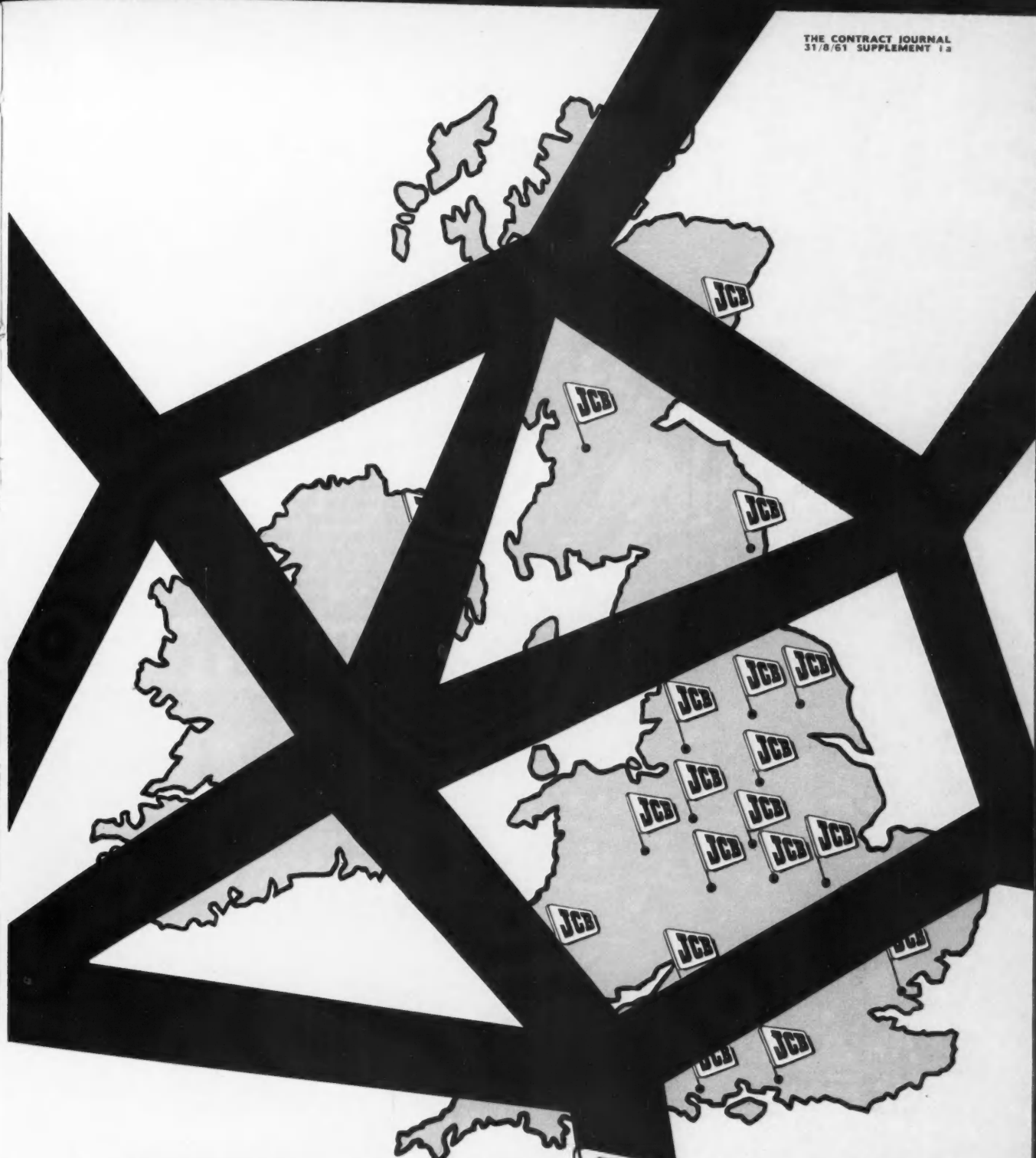
Prestressing was only economical over the main banqueting rooms, where beams span 53 feet. These beams support loads of 110 tons each, and were post-stressed by a special jack designed for stressing cables of 12 x $\frac{1}{2}$ in. diameter strands, with an ultimate strength of over 200 tons per cable. The prestressing strand for this important project was supplied by Richard Johnson & Nephew.

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Blaw Knox 'CLEANLINE' Concrete Mixers will handle 99 per cent of concrete specifications... mixing them more thoroughly and with greater rapidity than other drum mixers.

The 'CLEANLINE' drum and its blades, manufactured from special alloy steel, almost completely eliminate any tendency to "material build-up". This ensures a thorough mix and clean, rapid discharge. Enclosure of moving parts keeps them clear of abrasive dirt and reduces wear and maintenance.

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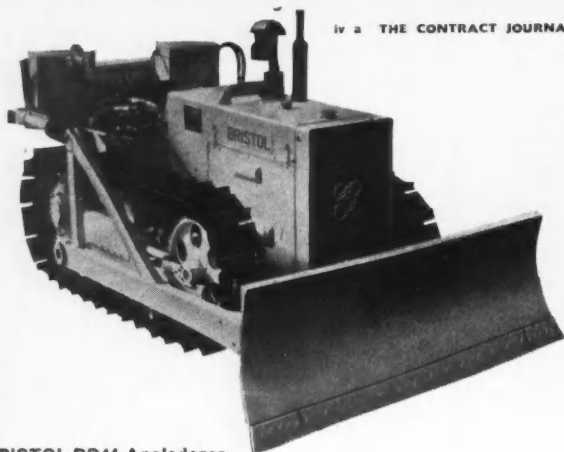
RUYPMP (PLANT HIRE) LIMITED

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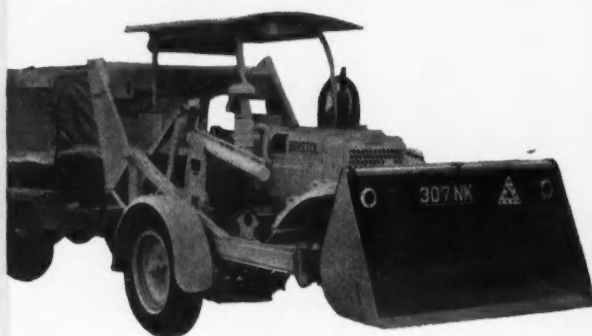
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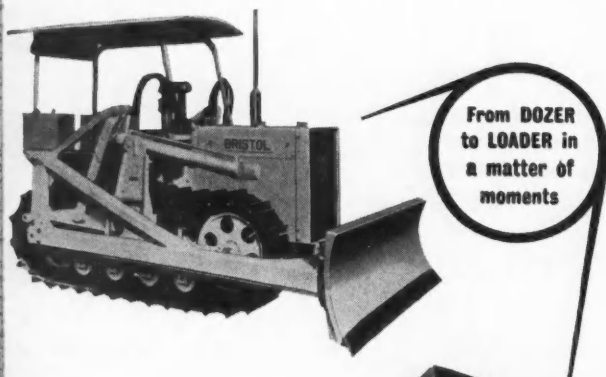
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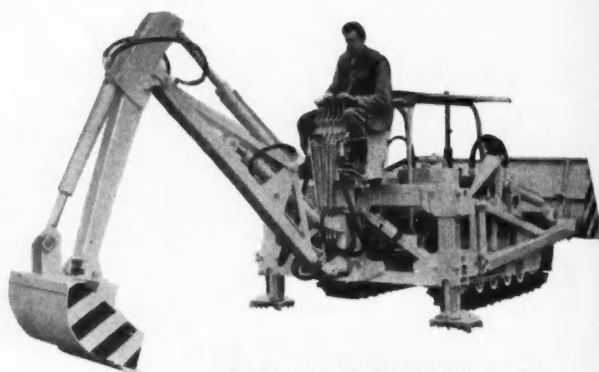
BRISTOL PD44 Angledozer.



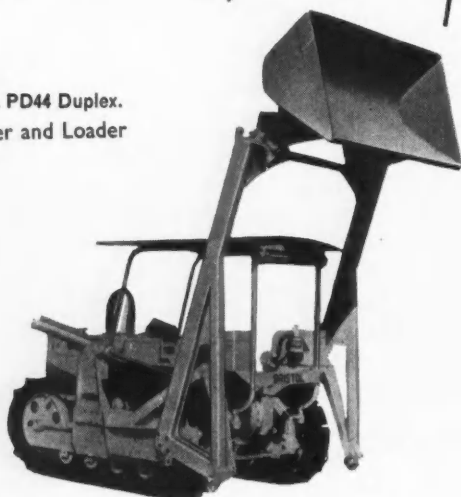
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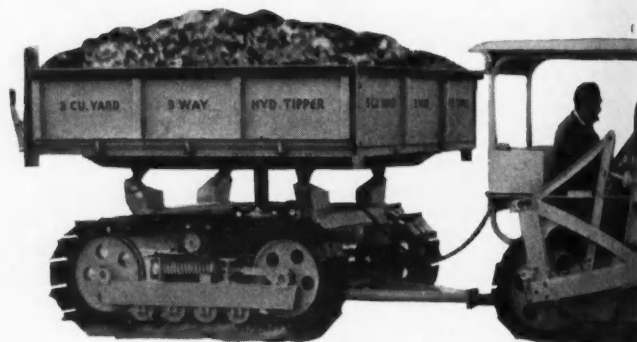
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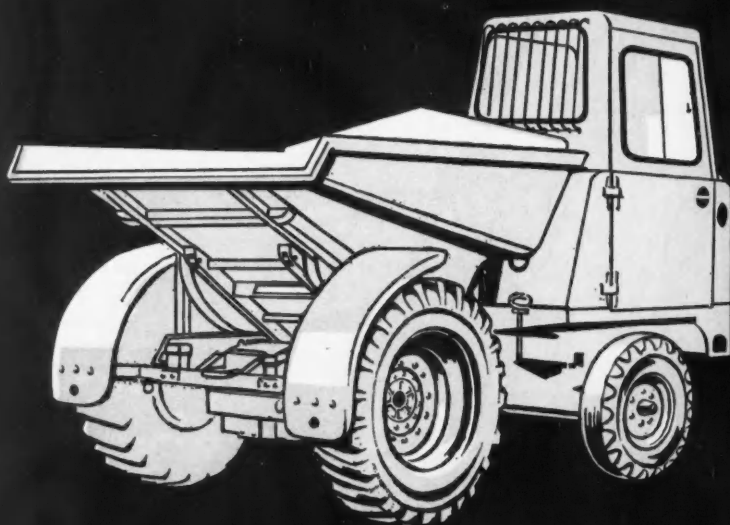
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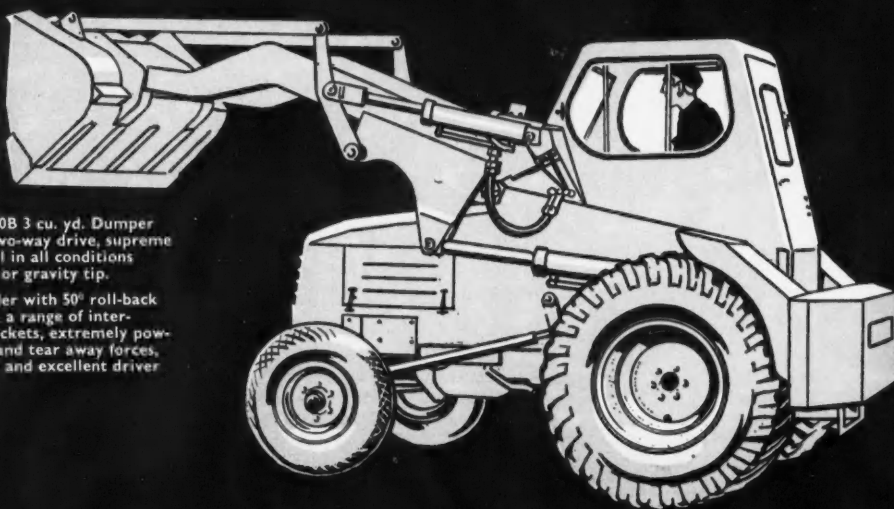
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The world's most versatile earthmovers!

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Right: The RD2 Loader with 50° roll-back bucket action, a range of interchangeable buckets, extremely powerful pry-out and tear away forces, great stability and excellent driver vision.



FD2 Front Wheel Drive Loader.



2-VL Mk. II Loader with patent suspension.



14B 4 1/2 cu. yd. Dumper.



3S 30 cu. ft. Site Dumper.

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5, 10, 15, 25 tons LORRY MOUNTED
Jibs to 150' 0"

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Jibs to 95' 0"

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JIBS UP TO 120 ft. PLUS FLY JIBS

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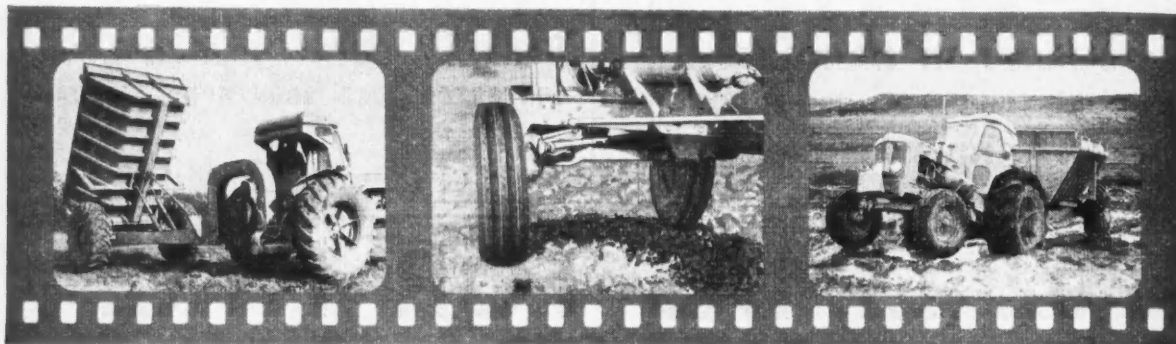
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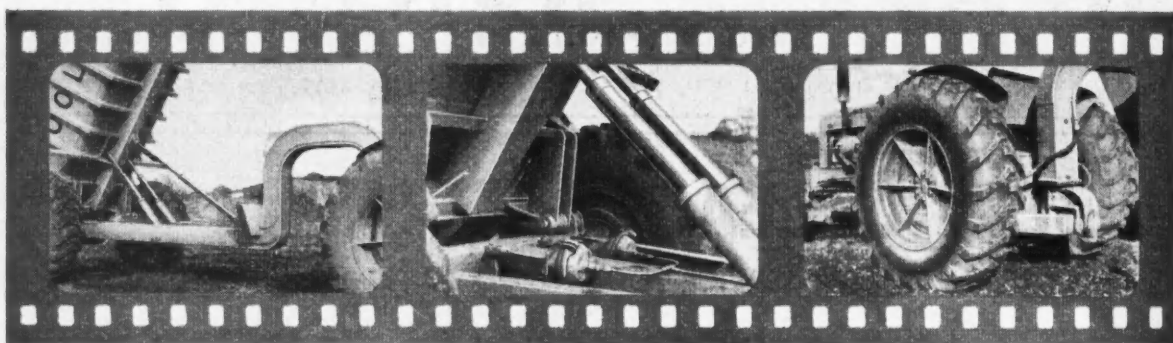
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Shawnee Poole has all the advantages of conventional front wheel steering for safer, faster travel speeds on haul roads or cross country with none of the disadvantages of costly power consuming hydraulically linked steering.

... WITH TWO WHEEL STEERING WHEN YOU WANT IT

In deep mud, or on steep gradients, the weight transference principle allows the front axle to lift up slightly and the disc type steering brakes enable the driver to retain complete steering control at all times.



SLEDGE-TYPE CHASSIS

Compare the chassis of the Shawnee Poole with a conventional vehicle and you will see Shawnee Poole's clean, sledge-type design is rugged and far less vulnerable. Note the ample ground clearance.

POWERFUL AIR BRAKES

The Operator has full control of the Shawnee Poole through the powerful compressed air brake system. In addition to normal-braking control, correct application of the air brakes increases steering control under certain conditions.

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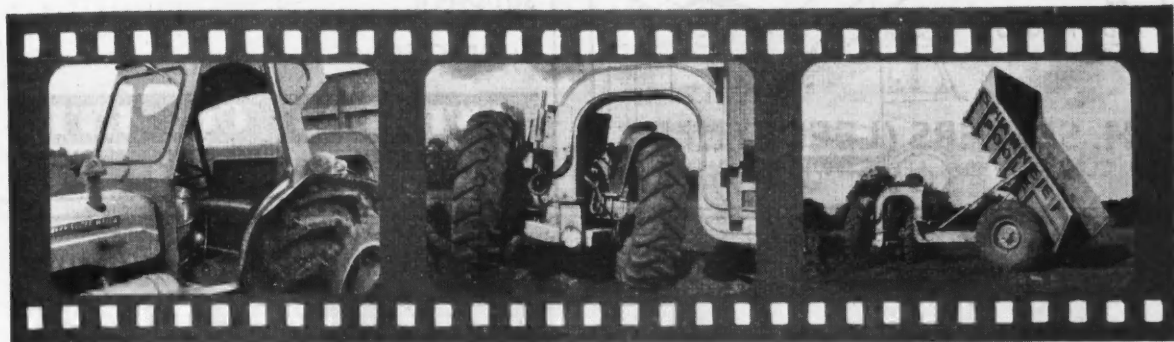
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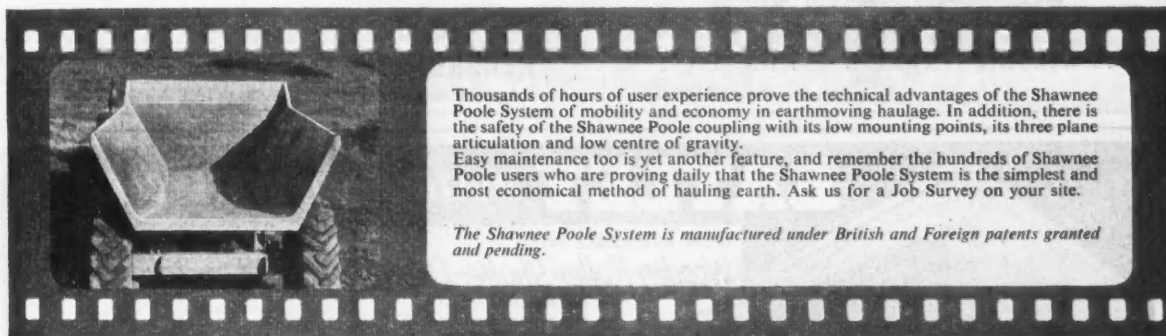
Bench-type foam rubber seat and excellent visibility with all-weather protection.

SAFETY AND DETACHABILITY

The Shawnee Poole coupling is mounted underneath and forwards of the centre line of the tractor's rear axle, ensuring maximum stability and complete driving wheel adhesion. Additionally, the low-level mounting points of the coupling eliminate the dangers of side thrust and ensure maximum driver safety. The tractor is quickly detachable from the hauler for service requirements.

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Thousands of hours of user experience prove the technical advantages of the Shawnee Poole System of mobility and economy in earthmoving haulage. In addition, there is the safety of the Shawnee Poole coupling with its low mounting points, its three plane articulation and low centre of gravity. Easy maintenance too is yet another feature, and remember the hundreds of Shawnee Poole users who are proving daily that the Shawnee Poole System is the simplest and most economical method of hauling earth. Ask us for a Job Survey on your site.

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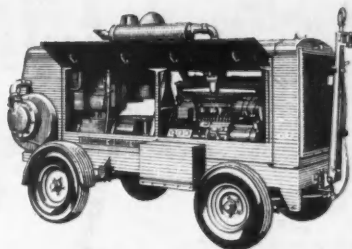
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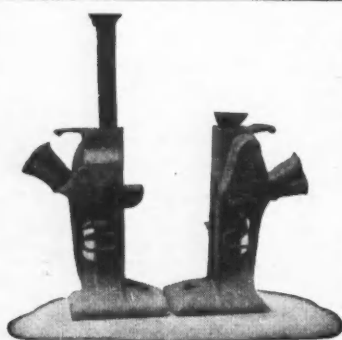


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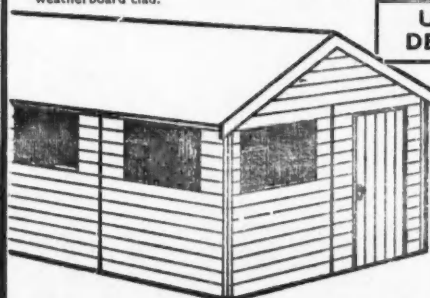
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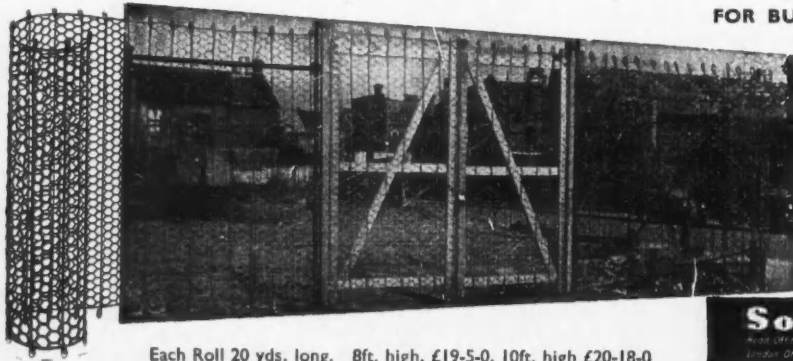
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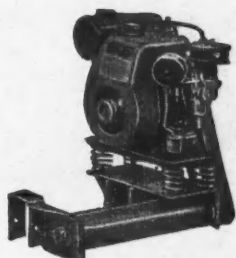
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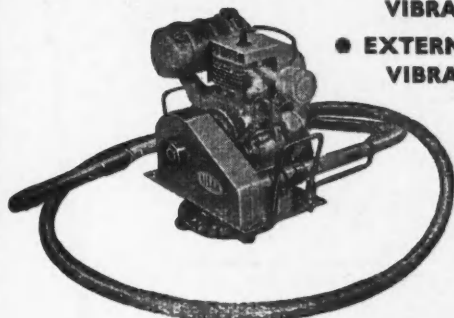
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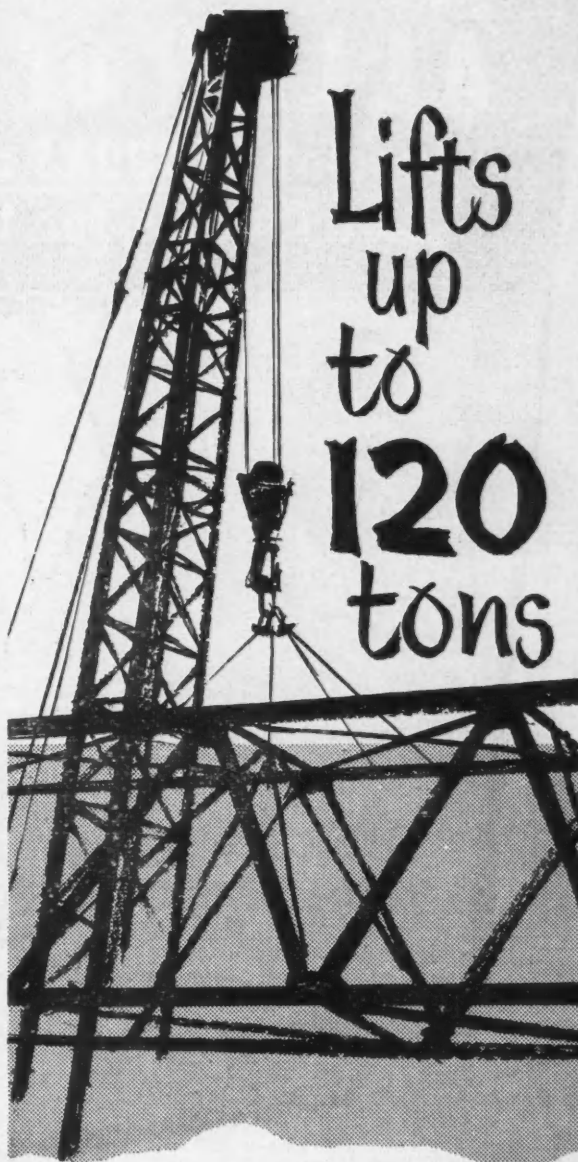
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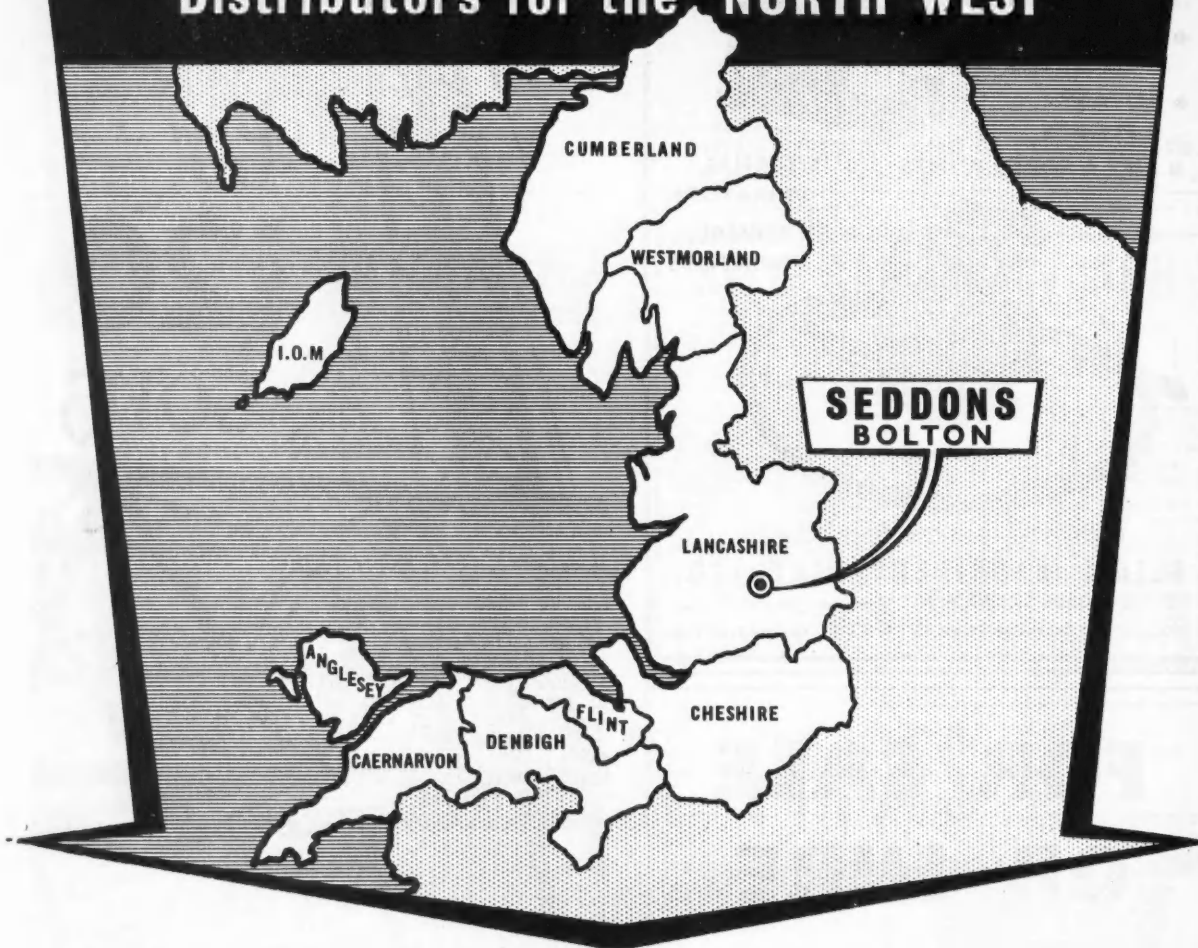


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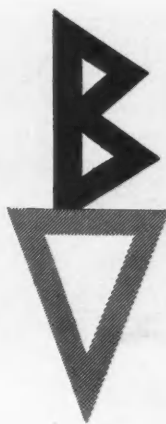
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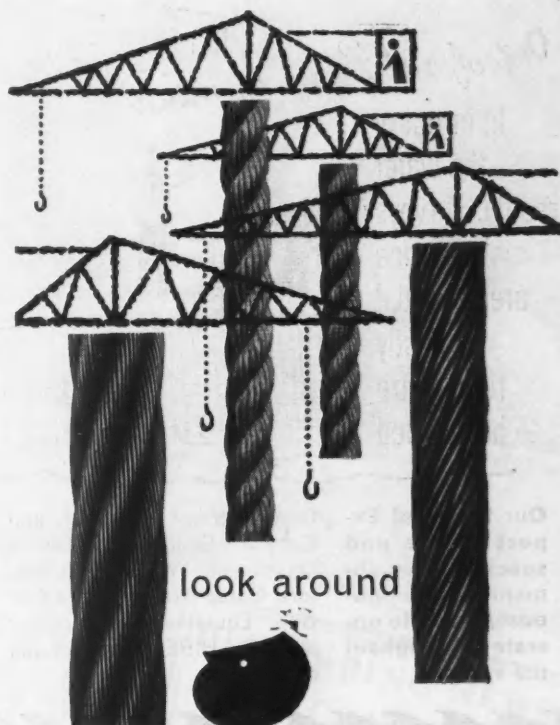


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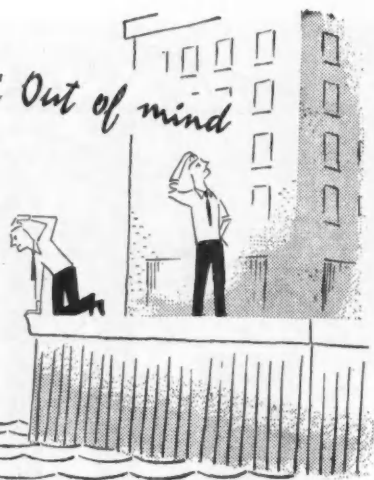
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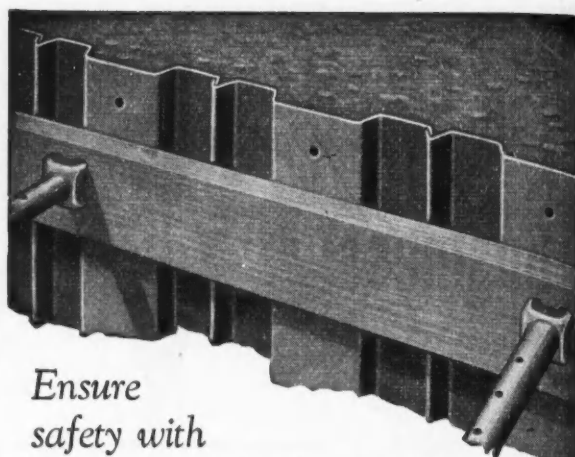


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*'Agitation amongst
the aggregates'*

OUR Industrial Correspondent reports considerable unrest in the National Union of Aggregates. The disquiet is caused by the proposed employment of still more CCL-Tremix on sites throughout the country.

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A spokesman for the employers said last night that in view of the excellent results obtained with CCL-Tremix they would go forward with their plans without further delay. They believe the aggregates would then settle down far more quickly than was at one time believed possible.

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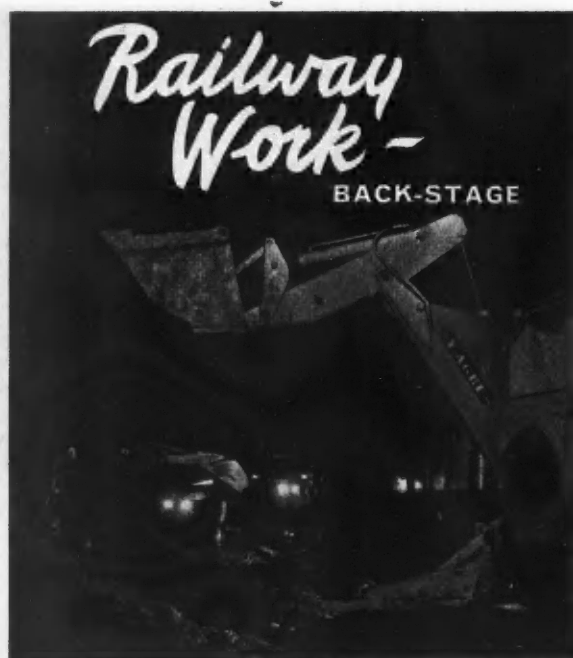
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Photograph by courtesy of British Railways

Scene: Main Line, 2 a.m. —

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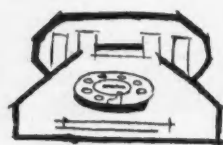
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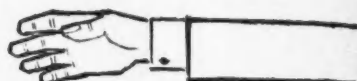
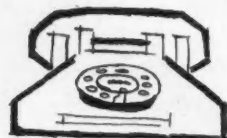
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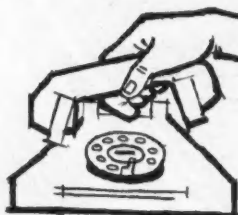
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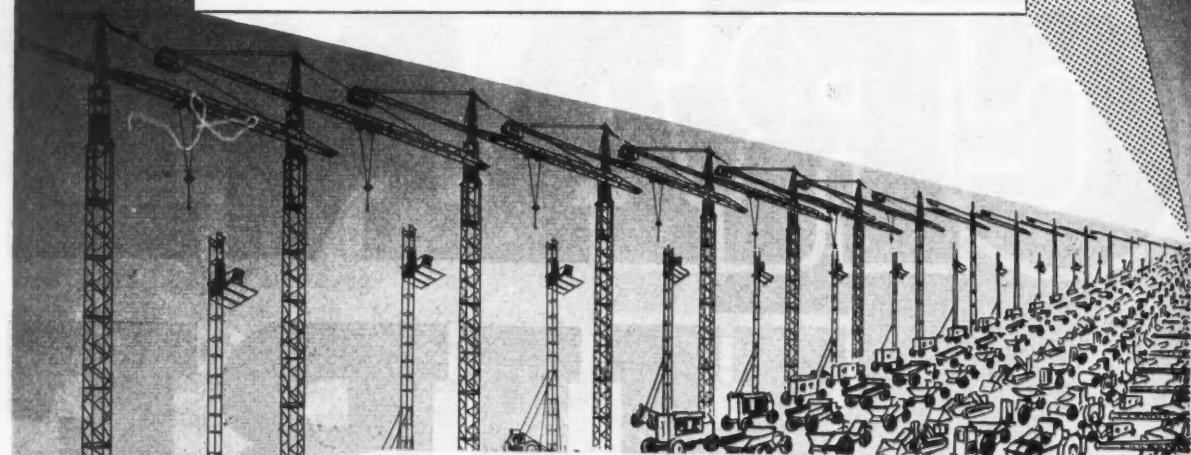
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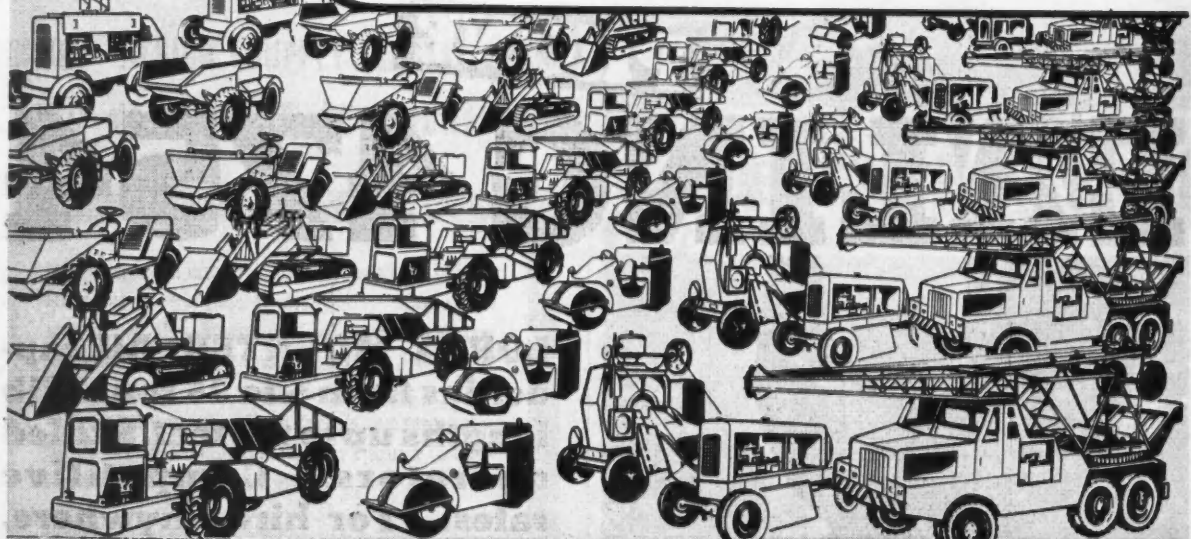
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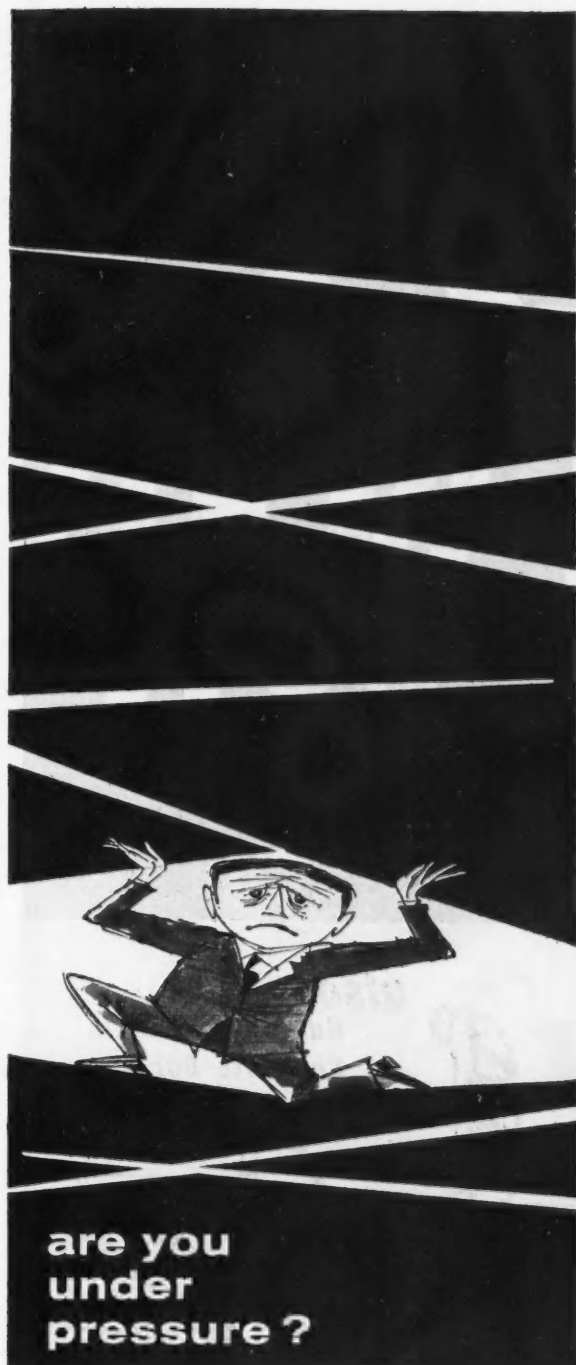


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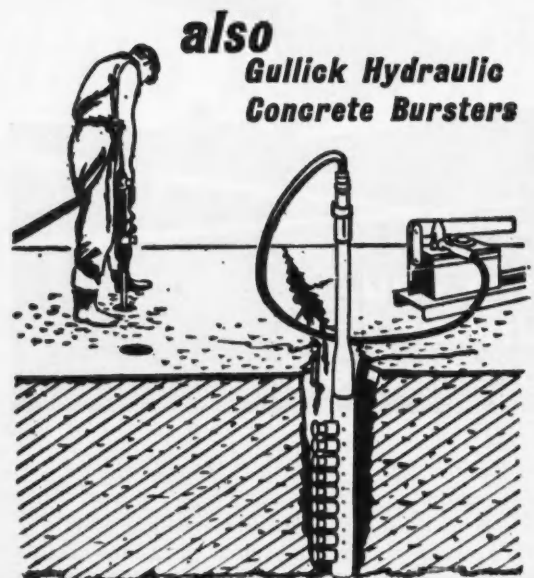
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GRADE-ability

**Shawnee
Poole**

**Cuts cycle time
Eliminates expensive
site preparation**

Even on the steepest gradients, rugged, mobile Shawnee Poole Rear Dump Haulers maintain high production figures. The Shawnee Poole System saves you up to 50% in total operating costs and increases production.

Ask for a Job Survey on your site

The Shawnee Poole System is manufactured under British and Foreign patents granted and pending.



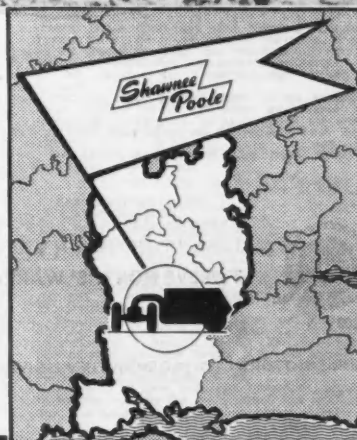
FRED MYERS LTD

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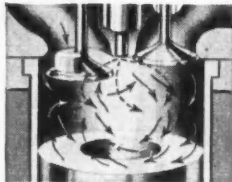
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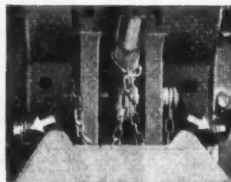
it's never too tough for a **NUFFIELD** UNIVERSAL

Put a Nuffield to the test. Those who have wouldn't have any other make. A Nuffield, with the BMC diesel, has ample power and stamina for every industrial job from excavating to cement mixing. The 3.4 litre 'Four' develops 56 b.h.p. while its smaller brother, the 2.55 litre 'Three' develops 42 b.h.p. There are many extras that are particularly useful in industrial work; hydraulics, vacuum brakes, differential lock, power steering (on the 'Four') etc. Your local Nuffield dealer will supply full information and will arrange a working demonstration.



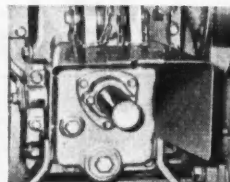
BMC diesel engine

Masked inlet valves and four-hole direct-injection nozzles for ideal combustion. Wet cylinder liners improve cooling efficiency, reduce maintenance costs.



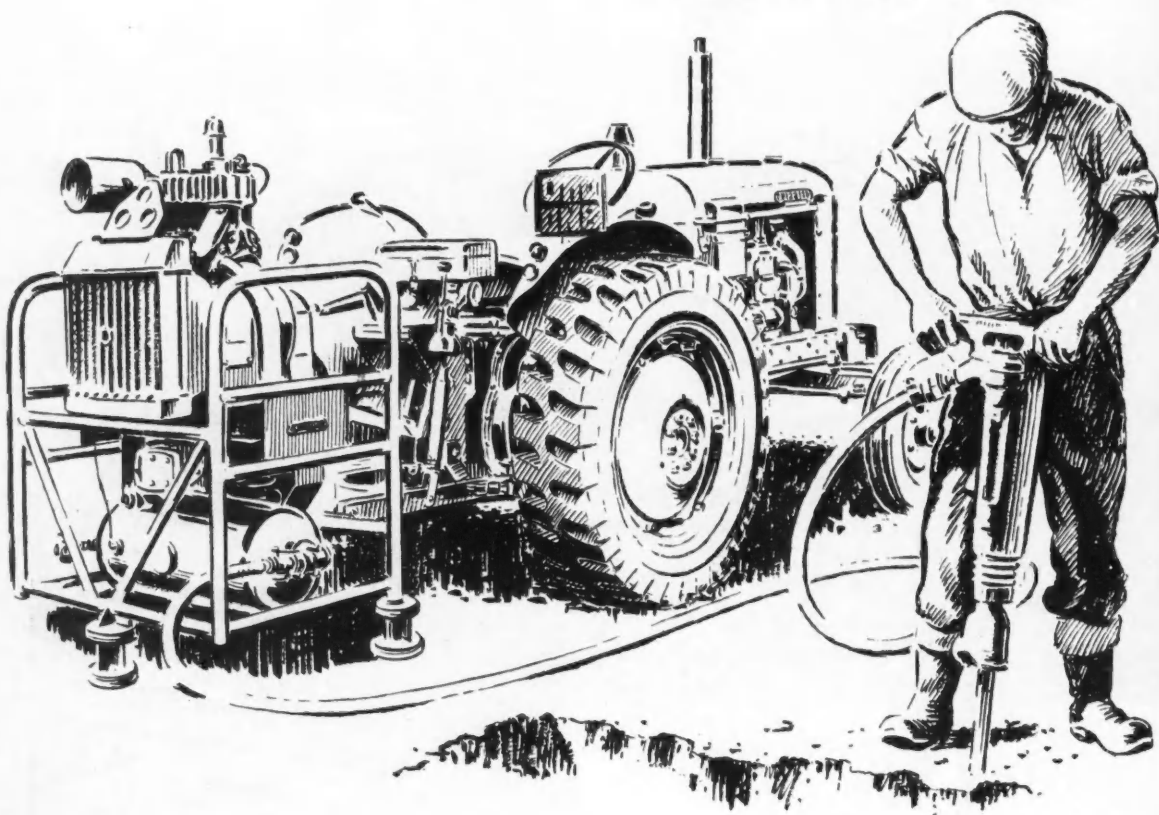
Hydraulic Power

An in-built hydraulic pump actuates twin rear lift arms. Two separate tappings (arrowed), with independent controls, supply power for hydraulic equipment.



Independent power take-off

This unique device enables the tractor to be stopped, started or put into any gear without interruption to the power take-off unit.



TWELVE MONTHS' WARRANTY and backed by BMC Service

MORRIS MOTORS LTD. (AGRICULTURAL DIVISION), COWLEY, OXFORD. Overseas: Nuffield Exports Ltd., Oxford and 41-46 Piccadilly, London, W.1.

CONTRACTS

SOMERSET COUNTY COUNCIL.

ROADWORKS NEAR WESTON-SUPER-MARE.

TENDERS are invited for the WIDENING, REALIGNMENT and RECONSTRUCTION of approx. 1 mile of ROAD at OLDMIXON, near Weston-super-Mare, Somerset.

Specification, Bill of Quantities and Form of Tender may be obtained from the Office of the County Surveyor, County Hall, Taunton, Somerset, where the Drawings may be inspected during normal office hours. Drawings may also be inspected at the Office of the Borough Engineer, Town Hall, Weston-super-Mare, Somerset. A fee of £2 is payable and returnable on receipt of a bona-fide Tender and return of all documents.

No Tender will be received except in the plain envelope provided for the purpose, which shall bear the words "Tender for Roadworks at Oldmixon," but shall not bear any name or mark indicating the sender, and shall be delivered or sent by Post to reach the Clerk of the County Council, County Hall, Taunton, not later than Noon on MONDAY, the 25th September, 1961.

J. H. H. WILKES, B.Sc., M.I.C.E.,
County Surveyor.

County Hall,
Taunton, Som.

WEST SUSSEX COUNTY COUNCIL.

SHEET PILE WALL AT SOUTHWICK.

TENDERS are invited from contractors experienced in driving sheet piling and ancillary works for the CONSTRUCTION of the ABOVE WALL, 767ft. long, in the north bank of the CANAL, Shoreham Harbour. The Contract documents and Drawings may be inspected by appointment either at the Office of the County Engineer and Surveyor, County Hall, Chichester, or at the Offices of the Engineer, SCOTT AND WILSON, KIRKPATRICK AND PARTNERS, 47 Victoria Street, London, S.W.1. On payment of a deposit of Five Guineas to the Engineer, persons wishing to tender will be supplied with two copies of the bound Contract documents. The deposit will be returned either on the receipt of a bona-fide Tender or on return of both copies of the Contract documents complete and unmarked to the Engineer. Tenders must be delivered to the undersigned, in the envelope provided, not later than 12 Noon on the 28th SEPTEMBER, 1961.

E. HAYWARD,
Clerk of the County Council.

BOROUGH OF WREXHAM.

FIXED-PRICE TENDERS are invited for the FOLLOWING:

- (a) Construction of 20 Brick Garages, Queen's Park.
- (b) Construction of 17 Brick Garages, Queen's Park.
- (c) Demolition of 11 Dwellings, Madeira Hill.

Applications for details, Tender Forms, Bills of Quantities (a) and (b), Specification (c), enclosing deposits of £1 1s. for each Contract, refundable on receipt of bona-fide Tender, to be made to the Borough Engineer and Surveyor, Guildhall, Wrexham. Closing date for receipt of Tenders: 12 Noon on THURSDAY, 14th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

PHILIP J. WALTERS,
Town Clerk.

Guildhall,
Wrexham.

16th August, 1961.

CITY OF STOKE-ON-TRENT.

RECONSTRUCTION OF LONGTON BROOKCOURSE—LONGTON HALL ROAD AND BLURTON ROAD, LONGTON.

The CORPORATION invite TENDERS from civil engineering contractors for CARRYING OUT WORKS on the ABOVE SCHEME.

This work comprises: Regrading and Realignment 70 lin. yd. of existing Brookcourse; Construction of 43 lin. yd. of 10ft. 6in. x 7ft. R.C. Channel; 48 lin. yd. of 10ft. 6in. x 6ft. 6in. Concrete Box Culvert; 189 lin. yd. of 7ft. x 5ft. 6in. Concrete Box Culvert; 130 lin. yd. of 5ft. 6in. Concrete Pipe Sewers and Manholes; Provision and Erection of 100 lin. yd. of Wrought-iron Fencing; and incidental works.

Drawings may be inspected, and Contract documents obtained, from the City Engineer and Surveyor, Town Hall, Stoke-on-Trent, on payment of £3 which will be refunded on receipt of a bona-fide Tender.

The Tender and priced Bill of Quantities (in the separate envelopes provided) must be delivered to the undersigned by 12 Noon on WEDNESDAY, 13th September, 1961.

HARRY TAYLOR,
Town Clerk.

CITY OF STOKE-ON-TRENT.

FOXLEY LANE HOUSING SITE, MILTON.

PRELIMINARY STREET WORKS AND SEWERS.

The CORPORATION invite TENDERS from civil engineering contractors for CARRYING OUT WORKS on the ABOVE HOUSING ESTATE, area approx. 3.25 acres, comprising the Construction of Preliminary Street Works, Sewers, and incidental works.

Drawings and Conditions of Contract may be seen, and Specification and Bills of Quantities obtained, from the City Engineer and Surveyor, Town Hall, Stoke-on-Trent, on payment of £2 deposit which will be returned on receipt of a bona-fide Tender. Tenders and priced Bills of Quantities (in the separate envelopes provided) must be delivered to the undersigned by 12 Noon on WEDNESDAY, 6th September, 1961.

HARRY TAYLOR,
Town Clerk.

CITY OF STOKE-ON-TRENT.

WESTON ROAD (A.520), MEIR.

IMPROVEMENT FROM UTTOXETER ROAD TO CORNELIOUS STREET.

TENDERS are invited for WORK on the ABOVE ROAD IMPROVEMENT SCHEME, consisting of the Widening, Reconstruction and Surfacing of the Carriageway, and Footways in Bitumen Macadam, Fine Cold Asphalt (approximately 1,850 sq. yd.), and Concrete Flag Paving, and including Surface Water Drainage, etc.

The Specification, Bill of Quantities and Form of Tender may be obtained, and Drawings inspected, on application to the City Engineer and Surveyor, Town Hall, Stoke-on-Trent, upon payment of a deposit of £3.

Tenders, appropriately endorsed, and Priced Bills of Quantities (in separate envelopes provided) to be delivered to the undersigned by 12 Noon on WEDNESDAY, 13th September, 1961.

HARRY TAYLOR,
Town Clerk.

CONTRACTS

WILTSHIRE COUNTY COUNCIL.

TENDERS invited for the FOLLOWING:

Improvement of the London-Bristol Trunk Road, A.4, approx. ¾ mile east of Cherhill. The works comprise the Excavation for, and Construction of, Widening and Realignment of the existing Carriageway over a length of approx. 1,000 lin. yd., including Kerbing, Drainage, Footpath, Realignment and Adjustment of G.P.O. plant, and ancillary works. Relevant documents obtainable from County Surveyor, County Hall, Trowbridge, on payment of £2 deposit, returnable on receipt of a bona-fide Tender. Drawings may be inspected by appointment at the above address.

Tenders, in envelopes bearing no name or mark indicating origin, returnable by 5 p.m. on the 12th of SEPTEMBER, 1961.

R. P. HARRIES,
Clerk of the County Council.

MALVERN URBAN DISTRICT COUNCIL.

GROUP "B" STREET LIGHTING—PHASE III.

TENDERS are invited for the ERECTION of 258 CONCRETE COLUMNS and Lanterns, and Provision of WIRING and LAMPS in the Residential Area of GREAT MALVERN.

Drawings and Conditions of Contract may be inspected at the Office of the Surveyor and Water Engineer, C. C. JUDSON, B.Sc., M.I.C.E., The Council House, Malvern, from whom the Form of Tender, Specification, etc., may be obtained on payment of a deposit of £2 2s., returnable where a bona-fide Tender is received within the prescribed period.

Tenders must be delivered to the undersigned not later than Noon on FRIDAY, 15th September, 1961, in plain endorsed envelope provided.

The Council do not bind themselves to accept the lowest or any Tender.

J. BULMAN,
Clerk of the Council.

The Council House,
Malvern.

19th August, 1961.

BENFLEET URBAN DISTRICT COUNCIL.

TARPOTS INTERCEPTING SEWER.

CONTRACT NO. 3.

TENDERS are invited on a Fixed-price Basis from contractors experienced in similar works, for the CONSTRUCTION and MAINTENANCE of approx. 2,500 yd. of 15in. dia. CONCRETE or STONE WARE SEWERS and 176 yd. of 18in. dia. STEEL SEWER, Manholes, and all other works incidental thereto, in the above Urban District.

Form of Tender, Bills of Quantities, Conditions of Contract and Specification may be obtained on or after 1st September on application to the Council's Engineers, MESSRS. LEMON AND BLIZARD, 59 Tufton Street, Westminster, London, S.W.1, on payment of a deposit of Five Guineas which will be returned on the receipt of a bona-fide Tender not subsequently withdrawn. Cheques to be made payable to the Benfleet Urban District Council.

The Drawings may be inspected at the Office of the Council or the Office of the Council's Engineers during ordinary office hours.

Tenders, on the form provided, accompanied by fully priced Bills of Quantities, and enclosed in a plain sealed envelope which shall not bear any name or mark indicating the sender, must be endorsed "Tender for Tarpots Intercepting Sewer," and must reach the undersigned not later than Noon on MONDAY, 2nd October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

D. GRUDINGS,
Clerk of the Council.

Council Offices,
Thundersley,

Essex.

25th August, 1961.

ROSS-ON-WYE URBAN DISTRICT COUNCIL.

FIXED-PRICE TENDERS are invited for the ERECTION of 14 THREE-BEDROOM HOUSES (one pair and three terraces of four houses), together with Drains, Paths, and all ancillary works, and New Road and Sewer, at THREE CROSSES ESTATE, Ross-on-Wye.

Applications for Bills of Quantities and Form of Tender, accompanied by a deposit cheque for £2 2s., payable to Ross-on-Wye Urban District Council, must be made not later than 7th SEPTEMBER, 1961, to EDGAR F. YOUNG, A.R.I.C.S., Chartered Quantity Surveyor, 2 Twioli Lawn, Wyke Road, Cheltenham. The deposit will be returned on receipt of a bona-fide Tender.

Bills of Quantities, Form of Tender, and envelope for the return of Tender will be issued on 7th SEPTEMBER, 1961, and Tenders, enclosed in the envelope provided for the purpose, must be delivered to the undersigned not later than 12 Noon on THURSDAY, 28th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

E. MOSES,
Clerk of the Council.

Council Chambers,
Ross-on-Wye,

Herefordshire.

21st August, 1961.

LEEDS REGIONAL HOSPITAL BOARD.

TO HEATING AND/OR ELECTRICAL CONTRACTORS.

TENDERS are invited for CARRYING OUT the FOLLOWING:

- (a) Air Conditioning, Heating, Hot Water Supply and Sterilising Equipment Installations;
- (b) Electrical Installation, at the Lloyd Hospital, Bridlington.

Applications for Form of Tender and Specification and Drawings, accompanied by a deposit of £2 2s. (which will be refunded on receipt of a bona-fide Tender and other Contract documents), must be made to the Regional Engineer at the undermentioned address not later than 12 Noon on WEDNESDAY, 6th September, 1961. Cheques should be made payable to the Leeds Regional Hospital Board, and crossed.

A copy of the Drawings, Conditions of Tender and Conditions of Contract may be inspected at the Office of the Regional Engineer, or at the Office of MESSRS. LEAKE AND WILSON, Consultant Engineers, Oriel Chambers, 27 High Street, Hull.

Sealed Tenders, in the endorsed envelope provided, must be delivered to the undersigned not later than 12 Noon on MONDAY, 2nd October, 1961.

The Board does not bind itself to accept the lowest or any Tender.

WM. A. SHEE,
Secretary to the Board.

Park Parade,
Harrrogate, Yorks.

CONTRACTS

WILTSHIRE COUNTY COUNCIL.

TENDERS invited for the FOLLOWING:

Improvement of the Junction of London-Bristol Trunk Road, A.4, with Silver Street (B.3102) in Calne (White Hart cross-roads). The works comprise of Demolishing of Premises known as South Place, Calne, together with various Outbuildings and Greenhouse, Constructing new Carriageway approx. 365 sq. yd., and Paved Footway approx. 920 sq. yd., including Kerbing, Drainage, and other ancillary work.

Inspection of interior of buildings can be arranged by appointment.

Relevant documents obtainable from County Surveyor, County Hall, Trowbridge, on payment of £2 deposit, returnable on receipt of a bona-fide Tender. Drawings may be inspected by appointment at the above address.

Tenders, in envelopes bearing no name or mark indicating origin, returnable by 5 p.m. on the 12th of SEPTEMBER, 1961.

R. P. HARRIES,
Clerk of the County Council.

NOTTINGHAMSHIRE COUNTY COUNCIL.

HIGHWAYS COMMITTEE.

TENDERS are invited for the SUPPLY of the UNDERMENTIONED ITEMS of PLANT:

- 1 Lorries.
- 2 Road Rollers.
- 6 Tractors and Loading Equipment.
- 1 Concrete Mixer.
- 3 Air Compressors.
- 1 Concrete and Road Breaker.
- 2 Gritters.
- 3 Mowing Attachments for tractor.
- 3 Power Mowers.
- 2 Roadweeper/Collectors.
- 1 Tipping Trailer.

Further particulars are obtainable from the County Surveyor, Shire Hall, Nottingham.

Completed Tenders should be returned, in the envelopes provided, to the undersigned by the 22nd SEPTEMBER, 1961.

A. R. DAVIS,
Clerk of the County Council.

COUNTY BOROUGH OF ROTHERHAM.

ALDWARKE SEWAGE WORKS RECONSTRUCTION—CONTRACT 9.

TENDERS are invited from experienced public works contractors for the CONSTRUCTION of FOUR STORM WATER TANKS, a Detritor and Grit Elevator in Reinforced Concrete, together with new Concrete Roads, and other ancillary works.

Specifications and Bills of Quantities may be obtained from E. J. MANSON, B.Eng., A.M.I.C.E., Borough Engineer, Municipal Offices, Howard Street, Rotherham, on payment of a deposit of £5 5s. (Five Guineas) which will be refunded on receipt of a bona-fide Tender and not subsequently withdrawn.

Drawings may be inspected at the Offices of the Borough Engineer during normal working hours. Tenders, together with fully priced Bills of Quantities in plain sealed envelopes, endorsed "Storm Tanks—Aldwarke Sewage Works," must be delivered to the undersigned not later than 10 a.m., 18th SEPTEMBER, 1961.

The Council does not bind itself to accept the lowest or any Tender.

JOHN S. WALL,
Town Clerk.

Municipal Offices,
Howard Street,

Rotherham.

10th August, 1961.

BOROUGH OF TAUNTON.

EXTERNAL RENDERING TO 98 HOUSES.

MUSGROVE ESTATE, TAUNTON.

TENDERS are invited for the ABOVE WORKS. Particulars, Specification and Tender Forms obtainable from H. G. COX, F.I.H.S., Housing Maintenance Superintendent, Lambrook Farm Depot, Priory Avenue, Taunton.

Tenders must be sent to me not later than 10 a.m. on TUESDAY, 19th September, 1961.

K. A. HORNE,
Town Clerk.

Municipal Buildings,
Taunton.

URBAN DISTRICT COUNCIL OF KNARESBOROUGH.

PRIVATE STREET WORKS.

TENTERGATE ROAD, AVENUE AND LANE (PART).

TENDERS are invited for the MAKING-UP of the FOLLOWING:

- (a) Tentergate Road;
- (b) Tentergate Avenue;
- (c) Tentergate Lane (Part).

Specifications, Bills of Quantities and Forms of Tender may be obtained from the Engineer and Surveyor, Knaresborough House, Knaresborough (in whose Office Drawings and General Conditions of Contract may be inspected), on payment of a deposit of £2 2s., which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn. Cheques to be payable to Knaresborough Urban District Council.

Tenders must be delivered, in the envelopes provided (which shall not bear any name or mark indicating the sender), so as to reach the undersigned not later than Noon on MONDAY, 18th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

C. RILEY,
Clerk of the Council.

Knaresborough House,
Knaresborough.

18th August, 1961.

GUILDFORD RURAL DISTRICT COUNCIL.

Applications are invited from contractors wishing to receive Specification for MODERNISATION of 12 HOUSES at BROADWOOD COTTAGES, Wood Street, Worplesdon.

Specification, Plan and Form of Tender may be obtained from the Housing and Valuation Officer on payment of a deposit of £2 2s., returnable upon receipt of a bona-fide Tender. Cheques should be made payable to the Guildford R.D.C. and sent to the Housing and Valuation Officer.

Tenders, in the endorsed envelopes provided, are to be returned to the undersigned not later than 9.30 a.m. on MONDAY, 11th September, 1961.

E. W. SELLINGS,
Clerk of the Council.

Millmead House,
Guildford.

CONTRACTS

NEW SOUTH WALES, AUSTRALIA.

DEPARTMENT OF MAIN ROADS.

MUNICIPALITY OF ROCKDALE AND SHIRE OF SUTHERLAND.

SOUTHERN EXPRESSWAY.

PROPOSED BRIDGE OVER THE GEORGE'S RIVER, BETWEEN SANS SOUCI AND TAREN POINT.

TENDERS, suitably endorsed and addressed to the Secretary, Department of Main Roads, Box 3903, G.P.O., Sydney, New South Wales, Australia, are invited from experienced bridge contractors, and will be received up to 2.15 p.m. on THURSDAY, 1st February 1962, for the CONSTRUCTION of a SIX-LANE PRESTRESSED CONCRETE BRIDGE, 1,662ft. long, over the GEORGE'S RIVER, between SANS SOUCI and TAREN POINT, about 12 miles south of the central business area, Sydney, in accordance with the exhibited Drawings and Specifications as prepared by the Department. Tenders are to be priced in terms of Australian Currency. Copies of these Drawings and Specifications will be exhibited at the offices of the Department of Main Roads, 309 Castlereagh Street, Sydney, and the Agent General for New South Wales, 56-57 Strand, London, W.C.2.

Copies of the Specifications may be purchased from the Department of Main Roads, Sydney, or from the Agent General for New South Wales, London, W.C.2, for the sum of £1 5s. per set, and sets of half-size Drawings for the sum of £2 5s. per set. Full-size Drawings may be purchased from the Department of Main Roads, Sydney, at the rate of 5s. per sheet. Prices will be in Australian Currency in Sydney, and Sterling in London.

Tender forms may be obtained at each of the offices at which the Drawings and Specifications are exhibited.

R. S. JOHNSTON,
Secretary.

BEDFORDSHIRE COUNTY COUNCIL

A.505, CHURCH STREET, DUNSTABLE.

TENDERS are invited for the WIDENING and REALIGNMENT of the ABOVE ROAD over a length of 730yd.

The work consists of Site Clearance, Granular Sub-base, Lean-Mix Base, Asphalt Surfacing, considerable Division of Public Utility Services, Drainage Works, and the Lowering of the Carriageway under a reconstructed railway bridge. Tendering contractors should have had considerable experience in this type of work.

Copies of the Conditions of Contract, Specification and Bill of Quantities can be obtained from the County Surveyor, Dents Road, Bedford, on payment of Two Pounds deposit which will be refunded on receipt of a bona-fide Tender or return of the documents before the closing date. The Drawings may be examined at the above Office by appointment during working hours. Tenders must be returned to me by FRIDAY, 15th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender which may be received.

GEORGE BREWIS,
Clerk of the County Council.

Shire Hall,
Bedford,
August, 1961.

BEDFORDSHIRE COUNTY COUNCIL

AMPHILL TO TODDINGTON ROAD, A.5120, M.1 JUNCTION TO CRANFORD BRIDGE.

TENDERS are invited for the WIDENING and REALIGNMENT of the ABOVE ROAD over a length of 1,800yd.

The works consist of Earthworks, Concrete Haunching and Channeling, Granular Foundations, Farmac and Asphalt Surfacing and Drainage. The tarmac work will include trial materials.

Copies of the Conditions of Contract, Specification and Bill of Quantities can be obtained from the County Surveyor, Dents Road, Bedford, on payment of Two Pounds deposit which will be refunded on receipt of a bona-fide Tender or return of the documents before the closing date. The Drawings may be examined at the above Office by appointment during working hours. Tenders must be returned to me by FRIDAY, 15th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender which may be received.

GEORGE BREWIS,
Clerk of the County Council.

Shire Hall,
Bedford,
August, 1961.

CALNE AND CHIPPENHAM RURAL DISTRICT COUNCIL

NOTTON AND PICKWICK WATER MAINS.

TENDERS are invited for LAYING approximately 1,400yd. of 6in. and 5in. SPUN-IRON WATER MAIN in the Parishes of LACOCK and CORSHAM. The works consist of the Excavation, Laying and Bedding of the Mains, and the connection to the existing mains. The works will include trial materials.

Copies of the Specification, Bills of Quantities, Form of Tender and Plans can be obtained from the Engineer to the Council, at the address below, against a deposit of Two Guineas, refundable on receipt of a bona-fide Tender or return of the documents before the closing date. The Drawings may be examined at the above Office by appointment during working hours. Tenders must be returned to me by FRIDAY, 15th September, 1961.

The Council does not bind themselves to accept the lowest or any Tender.

H. F. HALES,
Clerk of the Council.

Bewley House,
Marshfield Road,
Chippenham.

NORTHWICH RURAL DISTRICT COUNCIL

STREET LIGHTING TENDERS.

TRUNK ROAD LIGHTING—CUDDINGTON.

The Northwich Rural District Council invites Tenders for the INSTALLATION of GROUP "A" LIGHTING on the Whitchurch to Warrington Trunk Road (A.49), in the Parish of Cuddington. The Contract comprises the Supply and Installation of 38 Concrete Columns to give a mounting height of 30ft., together with 200-W Sodium Vapour Lamps and Lamps and Control Gear.

Tender documents may be obtained from the Engineer and Surveyor, Whitehall, Hartford, Northwich, Cheshire, where the Drawings may be inspected. A deposit of Two Guineas will be required before the Tender documents are released, but this will be returned upon receipt of a bona-fide Tender or return of the documents.

Sealed Tenders, in the envelope supplied, bearing no name or mark indicating the sender, must be delivered to the CLERK OF THE COUNCIL, Whitehall, Hartford, Northwich, Cheshire, not later than 10 a.m. on THURSDAY, the 12th of October, 1961.

Swyddfa'r Sir,
Marine Terrace,
Aberystwyth.

CONTRACTS

KINGSWOOD URBAN DISTRICT COUNCIL

ADVANCE ROADS AND SEWERS.

TENDERS are invited for SITE CLEARANCE and the CONSTRUCTION of ADVANCE ROADWORKS and SEWERS on the Kingswood Site for approx. 200 Dwellings at TENNIS COURT ROAD, Kingswood.

Contract documents may be obtained from the Council's Engineer and Surveyor on a deposit of £10 (by cheque), returnable on receipt of a bona-fide Tender, and the Drawings may be inspected at his Office.

Sealed Tenders, in the envelope provided, endorsed "Roads and Sewers—Tennis Court Road Site," must be returned to the undersigned not later than Noon on TUESDAY, 12th September, 1961.

The lowest or any Tender will not necessarily be accepted.

I. H. DEARNEY,
Clerk of the Council.

Council Offices,
Kingswood,
Bristol.

MIDHURST RURAL DISTRICT COUNCIL

TENDERS are invited on a Fixed-price Basis for the MAKING-UP of the ROADS, Footpaths, and ancillary works, at THE HARROWS HOUSING ESTATE, Tillington.

Plans, Specification, Bills of Quantities and Form of Tender may be obtained from the Engineer and Surveyor upon payment of Two Guineas deposit, refundable on receipt of a bona-fide Tender.

Tenders are to be enclosed in a plain sealed envelope endorsed "Road Works—Tillington," and to be delivered to the undersigned not later than 18th SEPTEMBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

D. L. BLAY,
Clerk of the Council.

Council Offices,
North Street,
Midhurst, Sussex.

WIGAN RURAL DISTRICT COUNCIL

PARBOLD AND DISTRICT SEWERAGE SCHEME.

CONTRACT NO. 3.

TENDERS are invited, on a FIXED-PRICE BASIS, from experienced contractors for the FOLLOWING WORKS:

(a) Approximately Eight Miles of Sewers of varying diameter between 6in. and 18in., together with Manholes and appurtenant Works.

(b) Two Small Pumping Stations and Pumping Mains.

(c) House Drains and Inspection Chambers. Drawings may be inspected and the Contract documents obtained at the offices of the Engineers, MESSRS. CHARLES J. LOMAX AND SON, 68 Barton Arcade, Deansgate, Manchester, 3, on payment of a deposit of Five Guineas (cheques only, made payable to the Wigan Rural District Council, which will be refunded on the receipt of a bona-fide Tender not subsequently withdrawn.

Sealed Tenders, endorsed "Tender for Parbold Sewerage Scheme," must be returned to the undersigned not later than Noon on MONDAY, 2nd October, 1961.

The lowest or any Tender will not necessarily be accepted.

ROBERT GASKELL,
Clerk of the Council.

Municipal Offices,
10 Bridgeman Terrace,
Wigan,
Lancs.,
14th August, 1961.

ELLESMERE RURAL DISTRICT COUNCIL

CONTRACT NO. 4.

WATER SUPPLY TO SOUTHERN AREA.

TENDERS are invited for the CONSTRUCTION of about 22 miles of ASBESTOS-CEMENT WATER MAINS, varying in diameter from 8in. to 24in., and incidental works, in accordance with the Drawings, Specification and Bill of Quantities prepared by the Engineers, A. H. S. WATERS AND PARTNERS, of 25 Temple Row, Birmingham, 2.

The Drawings may be seen at, and the General Conditions of Contract, Specification, Bills of Quantities and Form of Tender may be obtained from, the Offices of the undersigned, or of the Engineers, on or after the 30th August, 1961, on payment of a deposit of Five Guineas which will be refunded upon receipt of a bona-fide Tender and the return of all documents.

Sealed Tenders, on the form supplied and in the endorsed envelope provided, are to be delivered to me at my Office not later than Noon on the 29th SEPTEMBER, 1961.

The Council does not undertake to accept the lowest or any Tender.

E. G. D. HEALEY,
Clerk of the Ellesmere Rural District Council.

Council Offices,
Ellesmere,
Shropshire,
16th August, 1961.

SOUTH CARDIGANSHIRE WATER BOARD

MAINLAYING CONTRACTS NOS. 54 AND 55.

FIXED-PRICED TENDERS are invited from experienced contractors for EITHER or BOTH of CONTRACTS NOS. 54 and 55, comprising the Excavation for, and Laying of, Spun-iron and Asbestos-cement Mains, together with ancillary works, as follows:

CONTRACT 54—FIVE EXTENSIONS.

Approx. 20,800yd. of 3in. dia. A.C. Pipes.

Approx. 2,000yd. of 2in. dia. A.C. Pipes.

CONTRACT 55—FIVE EXTENSIONS.

Approx. 450yd. of 3in. dia. S.I. Pipes.

Approx. 10,300yd. of 3in. dia. A.C. Pipes.

Approx. 5,500yd. of 2in. dia. A.C. Pipes.

Contract documents and Drawings may be obtained from the Engineer to the Board, H. PROTHERO, M.A., M.I.C.E., 36 Alban Square, Aberaeron, upon payment of a deposit of £3 3s. which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn, and the return of the Contract documents and Drawings.

Tenders, in plain sealed envelopes, and endorsed "Tender for Mains Extensions—Contract No. 54 (or Contract No. 55, as the case may be)," must be delivered to the undersigned not later than First Post on MONDAY, 25th September, 1961.

J. E. R. CARSON,
Clerk to the South Cardiganshire Water Board.

Swyddfa'r Sir,
Marine Terrace,
Aberystwyth.

CONTRACTS

COUNTY BOROUGH OF READING.

PRIVATE STREET WORKS.

SEND ROAD, CAVERSHAM.

TENDERS are invited for the CONSTRUCTION of 1,500 sq. yd. (approx.) CARRIAGEWAYS, with Surface Water Sewers, at Send Road, Caversham.

General Conditions and Drawings may be inspected, and Bill of Quantities, etc., obtained, for fee of Two Guineas (cheques payable to Reading Corporation) at Borough Surveyor's Office (P.O. Box 17), Town Hall, Reading, Ref. returned for bona-fide Tender.

Tenders to be delivered to TOWN CLERK, Town Hall, Reading, by 12 Noon on 4th OCTOBER, 1961. No Tender considered unless enclosed in plain sealed envelope, endorsed "Private Street Works—Send Road," but bearing no indication of sender.

The Corporation do not bind themselves to accept any Tender.

ILFORD BOROUGH COUNCIL

BOATHOUSE AND SAILING CENTRE.

The Ilford Borough Council invite TENDERS for the CONSTRUCTION at FOREST ROAD of a BRICK BUILDING (approx. 1,300 sq. ft.) for a Boathouse and Sailing Instruction Centre. The work includes Fencing and approx. 1,100 sq. yd. of ancillary Paving Work to be executed by nominated sub-contractors.

Form of Tender, Conditions of Contract, Bill of Quantities and Drawings may be obtained from the BOROUGH ENGINEER AND SURVEYOR, Town Hall, Ilford, upon the payment of a deposit of £2 2s. which is returnable upon the receipt of a bona-fide Tender.

Drawings are to be returned by Noon, 26th SEPTEMBER, 1961.

The Council does not bind itself to accept the lowest or any Tender.

BOROUGH OF SWINTON & PENDLEBURY.

CLIFTON DRAINAGE.

CONTRACT NO. 4.

The CORPORATION invites TENDERS from well-experienced contractors for the EXECUTION of the ABOVE CONTRACT, embracing the Construction of approx. 1,100 lin. yd. of Spun-iron, Cast-iron and Steel Sewers, varying in diameter from 24in. to 30in., with Manholes, etc., and appurtenant works.

Contractors desirous of tendering may obtain copies of the General Conditions, Specification, Bill of Quantities and Form of Tender from the Offices of the Consulting Engineers, MESSRS. G. B. KERSHAW AND KAUFMAN, Chandos House, Palmer Street, Westminster, S.W.1, upon deposit of Five Guineas (cheque, made payable to Swinton and Pendlebury Corporation) which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

Drawings may be inspected at the Offices of the Consulting Engineers or at the Office of the Borough Surveyor, Town Hall, Swinton, Lancs., any day during ordinary office hours.

Tenders, endorsed "Clifton Drainage—Contract No. 4," in plain sealed envelopes not bearing any name or mark indicating the sender, must be delivered to the undersigned not later than 12 Noon on WEDNESDAY, the 20th day of September, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

J. W. BLOMELEY,
Town Clerk.

Town Hall,
Swinton, Lancs.,
23rd August, 1961.

URBAN DISTRICT COUNCIL OF WALTHAM HOLY CROSS.

HIGHWAY IMPROVEMENT SCHEME.

LEA ROAD, WALTHAM ABBEY.

FIXED-PRICE TENDERS are invited for the RECONSTRUCTION of CARRIAGEWAY at LEA ROAD. Briefly the Work comprises Scarifying approximately 674 super. yd. of Crown Area and the Raising of Channels, Kerbs, Footpath, etc., together with the Construction of 110 cu. yd. of Concrete Retaining Wall.

Form of Tender, Specification and Bills of Quantities, etc., may be obtained from the Surveyor's Department on request.

Drawings may be inspected at the Engineer's Department.

Tenders, in the envelope provided endorsed "Lea Road Improvement," should be returned to the Town Hall not later than Noon on MONDAY, 18th September, 1961.

ROLAND E. SMITH,
Clerk of the Council.

Town Hall,
Waltham Abbey.

BASILDON DEVELOPMENT CORPORATION.

CHIEF ENGINEER'S DEPARTMENT.

ROAD 4—PHASE II.

CONTRACT E.153.

The Corporation invites TENDERS for the CONSTRUCTION of approx. 1,300yd. of 33in. wide CARRIAGEWAY, comprising 24,000 sq. yd. of 8in. and 9in. Reinforced Concrete Carriageway, together with Footways, Surface Water Drainage, and ancillary works.

Plans may be seen, and Bills of Quantities, Specification and Form of Tender obtained, on application to the Chief Engineer, Basildon Development Corporation, Gifford House, Basildon, Essex, on payment of £5 5s. which will be returned on receipt of a bona-fide Tender, on the form provided, together with a priced Bill of Quantities fully completed. The deposit will not be returned if the Tender is subsequently withdrawn.

Tenders, enclosed in the official envelope provided, must reach the undersigned not later than Noon on THURSDAY, 21st September, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

R. C. C. BONIFACE,
General Manager.

BASILDON DEVELOPMENT CORPORATION.

QUOTATIONS are invited for the SUPPLY and DELIVERY to the ESTATES MAINTENANCE DEPOT, THE HATHERLEY, Basildon, of 1,000 G.A.M. DOMESTIC REFUSE BINS of 2 1/2 cu. ft. capacity, to B.S. 792/1947. Each bin and cover to be embossed with the letters "B.D.C." and the year of manufacture, in characters of not less than 1 1/2in.

Delivery to be in single lots of 200 per month over a five-month period.

Quotations to be addressed to the CHIEF ESTATES OFFICER, Basildon Development Corporation, Gifford House, Basildon, Essex, and to be received within two weeks of the appearance of this announcement.

CONTRACTS

GLOUCESTERSHIRE COUNTY COUNCIL.

EXETER-LEEDS TRUNK ROAD, A.38.
EXTENSION OF GROVESEND TUNNEL.

TENDERS are invited for the ABOVE WORKS on the British Railways Yate-Thornbury Line, consisting of three 15ft. span R.C. Arches, length 19ft. On payment of a deposit of £10, made payable to the Gloucestershire County Council, refunded on receipt of a bona-fide Tender not subsequently withdrawn. Tender documents may be obtained from, and must be returned to, the County Surveyor, Quay Street, Gloucester, by not later than 10 a.m., TUESDAY, 26th September, 1961.

GUY H. DAVIS,

Clerk of the County Council.

Shire Hall,
Gloucester.

ANGLESEY COUNTY COUNCIL.

WATER DEPARTMENT.

TENDERS are invited for the LAYING of approx. 13,200yd. of 2in. dia. ASBESTOS-CEMENT PIPES, Valves and Fittings, from TRAFFWLL RESERVOIR to HOLYHEAD. Applications for Tender documents should be made to the County Water Engineer, Fronidrin, Llangefni. Tenders, in a plain envelope and marked "Tender for Mainlaying," should be delivered to the undersigned by not later than TUESDAY, the 3rd October, 1961.

IDRIS DAVIES,

Clerk of the County Council.

Shire Hall,
Llangefni,
Anglesey.

BOROUGH OF HESTON & ISLEWORTH.

WHITTON DENE/HALL ROAD.
HOUSING DEVELOPMENT.

TENDERS are invited for the ERECTION of 36 FLATS, 32 HOUSES and 68 GARAGES. Firms wishing to tender should make application to the Borough Surveyor, 88 Lampton Road, Hounslow, with a deposit of £2 2s. (Two Guineas) which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn. The Form of Tender and Bills of Quantities will be forwarded on or about 6th September, 1961. Tenders must be sealed in the envelopes to be provided, and received by the undersigned not later than Noon on 27th SEPTEMBER, 1961.

D. MATHIESON,

Town Clerk.

Town Hall,
Hounslow, Middx.

BOROUGH OF HORNSEY.

TENDERS are invited for the ERECTION of a PUBLIC MORTUARY in MYDDDELTON ROAD, N.B. Applications to receive Tender documents should be submitted to the Borough Engineer and Surveyor, Town Hall, The Broadway, Crouch End, London, N.8, not later than FRIDAY, 15th September, 1961. Tenders to be received not later than Noon on MONDAY, 16th October, 1961.

W. B. MURGATROYD,

Town Clerk.

ESHER URBAN DISTRICT COUNCIL.

INSTALLATION OF STREET LIGHTING—
PORTSMOUTH ROAD (A.3), ESHER.

CONTRACT NO. 325.

The Council are prepared to receive TENDERS for the PROVISION and ERECTION of 27 25ft. mounting height STEEL COLUMNS and Brackets, the Provision and Fixing of 27 Enclosed Lanterns, Sodium Vapour Lamps and Control Gear, and ancillary works. Form of Tender, Conditions of Tender, Specification and Bills of Quantities may be obtained from the Engineer and Surveyor and Planning Officer, Council Offices, Esher, on payment of a deposit of One Guinea which will be refunded on the receipt of a bona-fide Tender, together with the return of all documents in good condition. Drawings and Conditions of Contract may be inspected at the Office of the Engineer and Surveyor and Planning Officer during normal working hours.

Tenders, on the prescribed form, enclosed in the envelope provided, endorsed "Contract No. 325," and bearing no name or mark indicating the sender, must be addressed to the undersigned and received by him not later than 5 p.m. on MONDAY, 25th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

FREDERICK EDWARDS,

Clerk of the Council.

Council Offices,
Esher.

WILLENHALL URBAN DISTRICT COUNCIL.

LONGACRES INDUSTRIAL ESTATE—SURFACE
WATER SEWER.

TENDERS are invited for the CONSTRUCTION of approx. 161yd. of 18in. and 105yd. of 15in. dia. PRECAST CONCRETE SEWER, together with Six Manholes.

The Bills of Quantities and Form of Tender may be obtained from, and the Drawings, General Conditions of Contract and Specification examined at, the Office of the Engineer and Surveyor, Town Hall, Willenhall, during normal office hours.

Tenders, in plain sealed envelopes endorsed "Longacres Surface Water Sewer" to be delivered to the undersigned not later than Noon on MONDAY, 18th September, 1961.

JOHN R. RIDING,

Clerk of the Council.

Town Hall,
Willenhall, Staffs.

BALDON URBAN DISTRICT COUNCIL.

HIGHWAY SURFACING.

TENDERS are invited for SURFACING approx. 5,700 sq. yd. of CARRIAGEWAY at the KNOLL ESTATE, Baldon, with Hot Rolled Asphalt, and for Executing the Necessary Works of Kerb Raising and Surface Preparation.

Contract documents may be obtained upon application to the Council's Surveyor at this Town Hall. Sealed Tenders should be sent, in the envelopes provided, so as to reach me not later than the 18th SEPTEMBER, 1961.

C. MAY,

Clerk of the Council.

Town Hall,
Baldon,
Yorks.

CONTRACTS

COUNTY BOROUGH OF BOURNEMOUTH.

BOROUGH ENGINEER'S DEPARTMENT.
TENDERS FOR LAWN MOWER GRINDING
MACHINE.

TENDERS are invited for the SUPPLY of one 42in. LAWN MOWER GRINDING MACHINE. One 1956 Blakesley-Reid 36in. machine to be taken in part exchange. Specification and Tender Form, obtainable from the Borough Engineer, Town Hall, Bournemouth, returnable to me by the 6th OCTOBER, 1961.

A. LINDSAY CLEGG,

Town Clerk.

COUNTY BOROUGH OF BOURNEMOUTH.

BOROUGH ENGINEER'S DEPARTMENT.

TENDERS FOR: (A) DIESEL ROLLER; AND
(B) COMBINED GULLY/CESSPOOL EMPTIER.

TENDERS are invited for the SUPPLY of the FOLLOWING:
(a) One 8/10-ton Diesel Roller. One 1948 Advance Diesel Roller to be taken in part exchange; and
(b) One Combined Gully/Cesspool Emptier. One Bedford Flushing Vehicle (ex W.D., 1949) to be taken in part exchange.

Specification and Tender Forms, obtainable from the Borough Engineer, Town Hall, Bournemouth, returnable to me by the 6th OCTOBER, 1961.

A. LINDSAY CLEGG,

Town Clerk.

COUNTY BOROUGH OF OLDHAM.

EDUCATION COMMITTEE.

HOLY ROSARY PRIMARY SCHOOL PLAYING FIELD,
FITTON HILL.

TENDERS are invited from contractors experienced in the work, for SOIL STRIPPING, GRADING, DRAINING and CONSTRUCTION of an ALL-WEATHER PITCH at the ABOVE SITE, consisting of a total area of 1½ acres.

Copies of the Conditions of Contract, Council's Standing Orders relating to Contracts and Bills of Quantities may be obtained from the Borough Engineer and Surveyor, 75 Union Street, Oldham, on payment of a deposit of £2 2s. which will be returned on receipt of a bona-fide, completed Tender and priced Bill of Quantities not subsequently withdrawn, and the return therewith of all documents supplied. Cheques, etc., to be crossed and made payable to the Borough Treasurer, Oldham. Copies of the Plan may be seen during normal office hours at the Office of the Borough Engineer and Surveyor.

Tenders will only be considered provided that they are submitted in the envelope provided, sealed and delivered not later than First Post on WEDNESDAY, 13th September, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender. The Contract will be subject to the Standing Orders of the Council, which includes a requirement for the provision of sureties.

EDWARD HAINES,

Town Clerk.

BOROUGH OF BILSTON.

CONTRACT NO. 268.

RECONSTRUCTION OF LICHFIELD STREET, BILSTON.

TENDERS are invited from public works contractors for the ABOVE CONTRACT, which includes the Laying of approx. 180 lin. yd. of Kerb and Channel, and the Burning Off and Resurfacing in Hot Rolled Asphalt of 1,100 sq. yd. of Carriageway, together with the Reflagging of 533 sq. yd. of Footways with 2½in. Precast Concrete Paving Flags.

Drawings may be inspected at the Office of the Borough Engineer, Municipal Buildings, Hall Street, Bilston, Staffs, from whom Tender documents may be obtained upon payment of a deposit of Two Guineas which sum will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes endorsed "Contract No. 268—Reconstruction of Lichfield Street," are to be delivered to the undersigned not later than 12 Noon on MONDAY, the 11th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

A. M. WILLIAMS,

Town Clerk.

Town Hall,
Bilston, Staffs.

August, 1961.

CITY OF GLOUCESTER.

COMPLETION OF INNER RING ROAD
(OLD CATTLE MARKET SITE).

TENDERS are invited for the CONSTRUCTION of approx. 60yd. of DUAL CARRIAGEWAY, with Drainage, and Accommodation Works.

Form of Tender, Conditions of Contract, Specification and Bill of Quantities may be obtained from the City Engineer, 21 Eastgate Street, Gloucester, on receipt of a deposit of Two Guineas which will be returned on receipt of a bona-fide Tender not subsequently withdrawn.

The Tender, enclosed in a sealed envelope endorsed "Tender—Completion of Inner Ring Road—Old Cattle Market Site," is to be delivered to the undersigned not later than 10 a.m. on TUESDAY, 19th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

A. G. W. BOGGO,

Town Clerk.

Guildhall,
Gloucester.

CITY OF GLOUCESTER.

EASTERN AVENUE—RECONSTRUCTION OF
CARRIAGEWAY.

TENDERS are invited for the PARTIAL RECONSTRUCTION of the ABOVE CARRIAGEWAY. Form of Tender, Conditions of Contract, Specification and Bill of Quantities may be obtained from the City Engineer, 21 Eastgate Street, Gloucester, on receipt of a deposit of Two Guineas which will be returned on receipt of a bona-fide Tender not subsequently withdrawn.

The Tender, enclosed in a sealed envelope endorsed "Tender—Eastern Avenue—Carriageway," is to be delivered to the undersigned not later than 10 a.m. on TUESDAY, 19th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

A. G. W. BOGGO,

Town Clerk.

Guildhall,
Gloucester.

CONTRACTS

COUNTY BOROUGH OF IPSWICH.

NORWICH ROAD-TRUNK ROAD, A.45
(DEBEN ROAD-DALES ROAD).

ASPHALT SURFACING WORKS.

TENDERS are invited for the SUPPLY, DELIVERY and LAYING of the FOLLOWING APPROXIMATE QUANTITIES of HOT ROLLED ASPHALT:

(a) Gravel Asphalt Base Course—250 tons.
(b) 1½in. Wearing Course—2,000 sq. yd.

Copies of Specification, Form of Tender and Bills of Quantities may be obtained from the Borough Engineer, 19 Tower Street, Ipswich.

Tenders, in plain sealed envelopes bearing the words "Asphalt Surfacing—Norwich Road," but with no name or mark to indicate the sender, must be delivered to the undersigned by Noon on MONDAY, 18th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

J. C. NELSON,

Town Clerk.

Town Hall,
Ipswich.

COUNTY BOROUGH OF DERBY.

SEWAGE DISPOSAL WORKS.

CONTRACT NO. 11.

TENDERS are invited for the CONSTRUCTION of TWO 45ft. dia. REINFORCED CONCRETE SLUDGE THICKENING TANKS and TWO 200ft. x 100ft. x 15ft. EARTHANKED CONCRETE LINED, SEWOD-ARY DIGESTION LAGOONS, together with ancillary Pipework and Incidental Roadworks.

General Conditions of Contract, Specification and Bills of Quantities may be obtained from the Council's Consulting Engineers, MESSRS. J. D. AND D. M. WATSON, M.M.I.C.E., 67 Tufton Street, Westminster, S.W.1, on the payment of a deposit of Ten Guineas, which will be refunded only to contractors who submit a bona-fide Tender and return all drawings and documents. Deposit cheques should be made payable to Derby Corporation.

Sealed Tenders, endorsed "Tender for Contract No. 11," should be submitted in a plain envelope to the undersigned not later than Noon on MONDAY, 2nd October, 1961.

N. S. FISHER,

Town Clerk.

The Council House,
Corporation Street,
Derby.

FAREHAM URBAN DISTRICT COUNCIL.

PRIVATE STREET WORKS.

TENDERS invited for MAKING-UP the FOLLOWING PRIVATE STREETS:

(i) Johns Road and two spurs (Fareham), total length approx. 530 lin. yd.; involving the Construction of Surface Water Drainage (approx. 470 lin. yd. 6in.-12in. dia. Sewers), Kerb and Channel, Carriageway Strengthening and Shaping with Tarmacadam Surfacing, Footpaths Surfaced with Tarmacadam, and other incidental works.
(ii) Westlands Grove and Whitehaven (Portchester), total length approx. 510 lin. yd.; involving the Construction of Surface Water Drainage (with approx. 100yd. 6in. dia. Sewers), Kerb and Channel, Carriageway Strengthening and Shaping with Tarmacadam Surfacing (in Whitehaven only), Footpaths Surfaced with Tarmacadam, Verges, and other incidental works.

Plans may be inspected, and Tender documents obtained from the Engineer and Surveyor, Westbury Manor, West Street, Fareham, Hants., on payment of a deposit of £2 (in each instance), which is refundable on receipt of a bona-fide Tender.

Forms of Tender (in the envelope provided) to be received by me not later than 10 a.m. on the 21st SEPTEMBER, 1961; other documents to be returned to the Engineer and Surveyor by same date.

The Council do not bind themselves to accept the lowest or any Tender.

B. W. RANDS,

Clerk to the Council.

Merton,

5 Grove Road,
Fareham, Hants.

URBAN DISTRICT COUNCIL OF WELLINGBOROUGH.

PREPARATION OF INDUSTRIAL SITE—
LONDON ROAD.

TENDERS are invited on a Fixed-price Basis for the DEMOLITION and CLEARANCE of SIX BUILDINGS, construction of approx. 1,800 super. yd. of Macadam Roadway, and the Laying of approx. 900 lin. yd. of 6in. to 18in. Foul and Surface Water Sewers and Manholes.

Specifications and Bills of Quantities and Form of Tender may be obtained from the Engineer and Surveyor, Council Offices, Swanspool, Wellingborough.

Tenders must be received by me, in the envelope provided, together with a priced Bill of Quantities, not later than 12 Noon on MONDAY, the 18th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

W. G. PALMER,

Clerk of the Council.

Council Offices,
Swanspool,

Wellingborough,

21st August, 1961.

CHAILEY RURAL DISTRICT COUNCIL.

MAIN DRAINAGE OF PLUMPTON—STAGE II.

C17/12 CONTRACT NO. 3.

TENDERS are invited for CONSTRUCTION of approx. 1,900 sq. yd. of small dia. SEWERS and Rising Mains, a Pumping Station, an additional Sedimentation Tank, Filter Bed and Humus Tanks at the Sewage Disposal Works, and other ancillary works.

Particulars and Specification may be obtained, and Plans inspected, at the Offices of the Consulting Engineers, MESSRS. HOWARD HUMPHREYS AND SONS, West Street, Epsom, Surrey, on and from 4th September, 1961, until 22nd September, 1961, between 10 a.m. and 4 p.m., upon payment of a deposit of £3 3s. by cheque made payable to the Council, returnable to each contractor submitting a bona-fide Tender not subsequently withdrawn.

Prints of the Contract Drawings can be obtained on loan from the Consulting Engineers on payment to them of £1 5s. by cheque made payable to Howard Humphreys (Services). All prints returnable.

Tenders, on the official form, in sealed envelopes endorsed "Main Drainage of Plumpton—Stage II," to reach the CLERK OF THE COUNCIL, Lewes House, High Street, Lewes, Sussex, by 2nd OCTOBER, 1961.

CONTRACTS.

LONDON COUNTY COUNCIL.

GOSWELL ROAD WIDENING.

TENDERS are invited from contractors having considerable experience of large road construction works for the WIDENING OF GOSWELL ROAD, Finsbury, between Baltic Street and Fann Street.

Form of Tender, Specification, etc., and Drawings are obtainable from the Chief Engineer upon payment of £3 by crossed cheque or order made payable to the London County Council, which will be returned only if a bona-fide Tender is submitted and not subsequently withdrawn.

Contract and other relevant documents may be inspected on personal application at Room 450D, County Hall, before payment of fee. Remittance by post should be addressed to the Chief Engineer, County Hall, Westminster Bridge, S.E.1.

No Tender received by the CLERK OF THE COUNCIL after 3 p.m. on MONDAY, 9th October, 1961, will be considered.

The Council does not bind itself to accept the lowest or any Tender.

ROYAL COUNTY OF BERKSHIRE.

HIGHWAYS ACT, 1959, PART 9.—CODE OF 1992.

TENDERS are invited for MAKING-UP GORDON ROAD AND ELMHURST ROAD, Thatcham.

The works involved in this Contract are as follows: 3,100 sq. yd. of Hardcore; 3,100 sq. yd. of Bitumen Macadam; 1,400 lin. yd. of Kerbing; 2,500 sq. yd. of Bitumen Macadam and Cold Asphalt Footways; Highway Drainage, and incidental works.

Drawings may be inspected at, and Specifications, Bills of Quantities and Form of Tender obtained from, the Office of the COUNTY SURVEYOR, Shire Hall, Reading, on payment of a deposit of £2 (Two Pounds) which will be refunded on receipt of a bona-fide Tender.

Tenders, in envelope provided, endorsed "Gordon Road and Elmhurst Road, Thatcham," must be returned not later than Noon on MONDAY, 18th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

BOROUGH OF MIDDLETON.

FOOTPATH RECONSTRUCTION WORK—ASPHALT SAND CARPET.

TENDERS are invited for the ABOVE WORKS, consisting of the Laying of approx. 1,050 lin. yd. Precast Concrete Kerb and 2,150 sq. yd. Asphalt (Sand Carpet).

Copies of the Conditions of Contract, Specification, Bill of Quantities and Form of Tender may be obtained on application to the Borough Engineer and Surveyor, Town Hall, Middleton, near Manchester, and should be duly completed and returned, in plain sealed envelopes endorsed "Footpath Reconstruction Works," to the undersigned not later than 12 Noon on WEDNESDAY, 13th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

F. JOHNSTON,

Town Clerk.

Town Hall,
Middleton,
Near Manchester,
22nd August, 1961.

BOROUGH OF WORKSOP.

PROPOSED BRICK BUILDING TO HOUSE CHLORINATION PLANT AT MANTON COLLIERY, WORKSOP.

FIRM-PRICE TENDERS are invited from building contractors for the ERECTION of the ABOVE-MENTIONED BUILDING at Manton Colliery, Worksop.

Plans may be inspected, and copies of the Specification and Form of Tender may be obtained from the Borough Engineer, Park House, Worksop, upon payment of a deposit of £3.5s. which will be refunded upon receipt of a bona-fide Tender.

Tenders, in the envelopes provided, must reach the undersigned not later than 10 a.m. on MONDAY, the 18th September, 1961.

The lowest or any Tender will not necessarily be accepted.

RUSSELL C. PHARAOH,

Town Clerk.

Town Hall,
Worksop.

BELPER URBAN DISTRICT COUNCIL.

EXTENSION OF GROUP "A" SODIUM LIGHTING.

TRUNK ROAD, A.6, DERBY ROAD, MILFORD.

FIXED-PRICE TENDERS are invited from experienced public works contractors for the SUPPLY, ERECTION AND WIRING of a SYSTEM of 30 140-W SODIUM LIGHTING UNITS on Prestressed Concrete Columns.

Specification and Bills of Quantities may be obtained from the Council's Engineer, S. J. SEDGWICK, at the address below, and Tenders, in plain sealed envelopes endorsed "Street Lighting—Derby Road, Milford," must be delivered to the undersigned not later than 9 a.m. on SATURDAY, 23rd September, 1961.

The Council does not bind themselves to accept the lowest or any Tender.

CHARLES PRICE,

Clerk of the Council.

Council Offices,
King Street,
Belper, Derby,
23rd August, 1961.

CRAYFORD URBAN DISTRICT COUNCIL.

(READVERTISEMENT.)

OLD ROAD IMPROVEMENT.

The Council invite TENDERS on a Fixed-price Basis for the IMPROVEMENT OF OLD ROAD, Crayford.

The Contract includes the Provision of 1,500 yd. Kerbing, 800 tons 1½-in. Bitumen Macadam, 5,400 sq. yd. Coarse Cold Asphalt, 3,000 sq. yd. Precast Concrete Paving, together with Surface Water Drainage, Brick Retaining Walls, and Accommodation Works.

Specification, Bill of Quantities and Form of Tender may be obtained from the Engineer and Surveyor, Town Hall, Crayford, Kent, on payment of a deposit of Two Guineas which will be returned on receipt of a bona-fide Tender and the return of one set of documents supplied.

Tenders must be received by the undersigned not later than 12 Noon, WEDNESDAY, 13th September, 1961, and no Tender will be received except in a plain sealed envelope which must bear the words "Tender—Old Road Improvement," but shall not bear any name or mark indicating the sender.

The Council do not bind themselves to accept the lowest or any Tender.

G. B. HODGSON,

Clerk of the Council.

CONTRACTS

STIRLING COUNTY COUNCIL.

DENNYLOANHEAD-KINCARDINE-KIRKCALDY-ST. ANDREWS TRUNK ROAD.

BONNYBRIDGE AND LARBERT DIVERSION.

SOIL SURVEY.

TENDERS are invited for CARRYING OUT a COMPLETE SOIL SURVEY.

Contract documents may be obtained from the County Road Surveyor, Causewayhead School, By Stirling, on a deposit of £2 which will be returned if a bona-fide Tender is received and not subsequently withdrawn.

Sealed Tenders, endorsed "Soil Survey," must be returned to the undersigned not later than 16th SEPTEMBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

JAMES D. KENNEDY,

County Clerk.

County Offices,
Stirling,

18th August, 1961.

CITY OF CANTERBURY.

CONSTRUCTION OF ACCESS ROAD FROM ST. MARGARET'S STREET.

TENDERS are invited for the CONSTRUCTION of an ACCESS ROAD, including Carriageway, Footways, Drainage, and incidental works, from St. Margaret's Street to serve the Marlboro Theatre and Slatters Hotel.

The total area of construction is approx. 1,150 sq. yd. Bill of Quantities, Specification and Form of Tender may be obtained from the City Engineer, Municipal Buildings, Dane John, Canterbury, and the Drawings and General Conditions of Contract may be inspected at his Office during normal hours.

Tenders, in plain sealed envelopes endorsed "Access Road from St. Margaret's Street," should reach the undersigned by not later than First Post on MONDAY, 18th September, 1961.

J. BOYLE,

Town Clerk.

Municipal Buildings,
Dane John,
Canterbury.

CITY OF CANTERBURY.

PROVISION OF A SECOND CARRIAGEWAY IN ST. GEORGE'S LANE.

TENDERS are invited for the CONSTRUCTION of a SECOND 22ft. wide CARRIAGEWAY 160ft. in length, together with incidental works, in St. George's Lane, between St. George's Street and the Bus Station.

Bill of Quantities, Specification and Form of Tender may be obtained from the City Engineer, Municipal Buildings, Dane John, Canterbury, and the Drawings and General Conditions of Contract may be inspected at his Office during normal hours.

Tenders, in plain sealed envelopes endorsed "St. George's Lane—Provision of Second Carriageway," should reach the undersigned by not later than First Post on MONDAY, 18th September, 1961.

J. BOYLE,

Town Clerk.

Municipal Buildings,
Dane John,
Canterbury.

CHISLEHURST AND SIDCUP URBAN DISTRICT COUNCIL.

STREET LIGHTING—TRUNK ROAD, A.20.

Contractors desirous of TENDERING for either, or both, of the FOLLOWING SCHEMES are invited to submit their names and addresses to the Surveyor, Manor House, Sidcup, with Two Guineas deposit for each Scheme, by 9th SEPTEMBER, 1961.

- (a) Supply and Laying of 113 200-W Sodium Lamps, mounted on 35ft. Steel Columns;
- (b) Supply and Laying of 4,800 yd. of Cable, and the Joining Works to 45 Street Lamps.

T. W. FAGG,

Clerk of the Council.

Sidcup Place,
Sidcup, Kent.

CALNE AND CHIPPENHAM RURAL DISTRICT COUNCIL.

REDEVELOPMENT OF RUDLOE CAMP.

The Calne and Chippenham R.D.C. are to select contractors to TENDER for the FIRST PHASE of the REDEVELOPMENT OF RUDLOE CAMP.

The work in this Contract will include the Demolition of Ministry of Works Hutting and the Erection of about 63 new Dwellings, including 18 in three-storey flats, and should be ready for commencement early in 1962.

Those contractors wishing to be considered for this work should apply to the Council's Architects, MESSRS. EDWARDS AND WEBSTER, 10 St. Mary Street, Chippenham, Wilts., by not later than the 9th SEPTEMBER, stating work of a similar nature recently carried out, and giving two referees, either Architects or Local Authorities.

CHELMSFORD RURAL DISTRICT COUNCIL.

RUNWELL SURFACE WATER DRAINAGE. CONTRACT NO. 1.

The Council invite FIXED-PRICE TENDERS for the ABOVE CONTRACT, comprising about 110 yd. 15in. dia., 370 yd. 21in. dia., 210 yd. 27in. dia., and 60 yd. 30in. dia. CONCRETE SEWERS and Precast Concrete Manholes, to be laid in PRIVATE STREETS and through gardens.

Drawings may be inspected at the Offices of the Council's Consulting Engineers, MESSRS. LEMON AND BLIZARD, 59 Tufnell Street, Westminster, S.W.1, and at the Engineer and Surveyor's Office, Chelmsford Rural District Council Offices, New London Road, Chelmsford.

Tender documents may be obtained on, or after, Thursday, 7th September, from the Consulting Engineers on payment of a deposit of Three Guineas by cheque made payable to the Chelmsford Rural District Council. The deposit will be returned on receipt of a bona-fide Tender which is not subsequently withdrawn.

Tenders, together with the Bills of Quantities fully priced in ink, are to be returned to the undersigned, in a sealed envelope bearing no mark or indication of the sender, not later than Noon on FRIDAY, 6th October, 1961.

The Council do not undertake to accept the lowest or any Tender.

C. A. BOHANNON,

Clerk of the Council.

Council Offices,
New London Road,
Chelmsford,
Essex.

CONTRACTS

BOROUGH OF COLWYN BAY.

CHESTER TO BANGOR TRUNK ROAD, A.55.

IMPROVEMENT SCHEME—CLOBYRN ROAD TO TANRALLT ROAD, LLANDUDULAS.

TENDERS are invited for the IMPROVEMENT of the ABOVE SECTION of the TRUNK ROAD, which lies about 3½ miles east of Colwyn Bay.

The Contract includes considerable Earthworks and Drainage Works required in the construction of approx. ¾ mile of Dual Carriageway Road complete, and an 80ft. span Bridge, together with all ancillary works. Tender documents and Plans may be obtained from H. WILMAN, A.M.I.C.E., Borough Engineer and Surveyor, Whalley Range, Lansdowne Road, Colwyn Bay, on payment of a deposit of Five Guineas which will be refunded on receipt of a bona-fide Tender and the return of the documents.

Tenders must be delivered by Registered Post to the undersigned, in plain sealed envelopes endorsed "Tender for Improvement Scheme—Trunk Road, A.55," not later than 12 Noon on TUESDAY, 31st October, 1961.

HAROLD E. BRAITHWAITE,

Town Clerk.

Town Hall,
Colwyn Bay,
August, 1961.

THE BOROUGH OF PORT TALBOT.

RIVER NEATH ABSTRACTION SCHEME.

CONTRACT NO. 2.

TREATMENT WORKS AND RIVER INTAKES.

TENDERS are invited from experienced civil engineering contractors for the CONSTRUCTION of the ABOVE WORKS, comprising a River Intake and Pump Sump, Reinforced Concrete Sedimentation Tanks and Filters for 2½ m.g.d., a Precast Concrete-framed Control House, a 27,000-gallon Steel Elevated Wash-water Tank, an Access Road and Bridge, together with ancillary Pipelines and Drainage Works.

Copies of the Contract documents and Drawings can be obtained from the Consulting Engineers, MESSRS. BINNIE, DEACON AND GOURLEY, Artillery House, Artillery Row, Westminster, S.W.1, upon payment of a cheque for £10 made payable to the Port Talbot Borough Council, refundable on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Tender for Treatment Works and River Intake," should reach my Office by Noon on MONDAY, 2nd October, 1961.

The Council does not undertake to accept the lowest or any Tender, and will not defray any expenses in connection with tendering, but tenderers must make themselves fully acquainted with the site and conditions of work.

W. KING DAVIES,

Town Clerk.

Municipal Buildings,
Aberavon,
Port Talbot,
South Wales.

THE BOROUGH OF PORT TALBOT.

RIVER NEATH ABSTRACTION SCHEME.

CONTRACT NO. 1.

PIPELAYING.

TENDERS are invited from experienced civil engineering contractors for the SUPPLY of ALL MATERIALS and CONSTRUCTION of PIPELINE WORKS on the ABOVE WATER SCHEME.

The works consist of approx. 2½ miles of 18in. dia. Span-iron Pipeline with Tyton Joints, and 3¼ miles of 15in. dia. Span-iron Pipeline with Tyton Joints, together with Valves and Fittings.

Copies of the Contract documents and Drawings can be obtained from the Consulting Engineers, MESSRS. BINNIE, DEACON AND GOURLEY, Artillery House, Artillery Row, Westminster, S.W.1, upon payment of a cheque for £10 made payable to the Port Talbot Borough Council, refundable on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Tender for Piping," should reach my Office by Noon on MONDAY, 2nd October, 1961.

The Council does not undertake to accept the lowest or any Tender, and will not defray any expenses in connection with tendering, but tenderers must make themselves fully acquainted with the site and conditions of work.

W. KING DAVIES,

Town Clerk.

Municipal Buildings,
Aberavon,
Port Talbot,
South Wales.

IRLAM URBAN DISTRICT COUNCIL.

SURFACE WATER SEWER.

TENDERS are invited for the CONSTRUCTION of a SEWER at ROSCOE ROAD, Irlam, comprised of 360 lin. yd. of 18in. dia. Concrete Pipe, together with Manholes and incidental works.

The Specification, Bill of Quantities and Form of Tender may be obtained from the ENGINEER AND SURVEYOR, Council Offices, Irlam, on payment of a deposit of One Pound, returnable upon receipt of a bona-fide Tender. Closing date for receipt of Tenders: 10 a.m., 11th SEPTEMBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

EAST DEVON WATER BOARD.

PUMPING EQUIPMENT.

SEATON URBAN DISTRICT COUNCIL—HOLYFORD WORKS—CONTRACT NO. 5.2.

TENDERS are invited from pump manufacturers for the SUPPLY of DUPLICATE ELECTRICALLY POWERED PUMPS, with auxiliary Equipment, for the ABOVE STATION.

The pumps will be of the horizontal surface type, and will be required to pump 15,000 gallons per hour against a total head of 70ft.

Full details of the Contract, including the Specification, Drawings and Conditions of Contract, may be obtained from the Chief Engineer to the Board, at the undermentioned address, and the completed documents must be returned to the Clerk of the Board not later than First Post on MONDAY, 25th September, 1961.

The documents must be sealed in the envelope provided, which must bear no indication of the persons tendering.

The Board and the Council do not bind themselves to accept the lowest or any Tender.

D. G. BRUCE,

Clerk of the Board.

46 New Street,
Honiton, Devon.

CONTRACTS

COUNTY BOROUGH OF NORTHAMPTON.

TENDERS, returnable by 10 a.m., 12th SEPTEMBER, are invited for the PAINTING of 1,200 CLASS "B" STEEL LAMP COLUMNS.

Particulars from Borough Engineer, Guildhall, Northampton.

C. E. VIVIAN ROWE,
Town Clerk.

COUNTY BOROUGH OF BOURNEMOUTH.

BOROUGH ENGINEER'S DEPARTMENT.

KINSON SEWAGE DISPOSAL WORKS.

CONTRACT NO. 6.

TENDERS are invited for the CONSTRUCTION of SEVEN SLUDGE DRYING BEDS, 65 lin. yd. of 6in. dia. PUMPING MAIN, and 100 lin. yd. of 6in. dia. UNDERDRAINING MAIN.

Documents and Drawings obtainable from the Borough Engineer, Town Hall, Bournemouth, on payment of One Guinea deposit, to be refunded on receipt of a bona-fide Tender not subsequently withdrawn, and the return of all documents and Drawings. Tenders to reach me by the 6th OCTOBER, 1961.

A. LINDSAY CLEGG,
Town Clerk.

BOROUGH OF FLINT.

PROPOSED SEWAGE SCHEME—BRYN-Y-GARREG FLINT MOUNTAIN.

TENDERS are invited for the LAYING of approx. 500yd. of 6in. STONEWARE and 100yd. approx. SPUN-IRON PIPE in FIELDS and HIGHWAY, together with the Construction of a Small Brick Septic Tank Treatment Plant Filter, with Revolving Sprinkler, and Humus Tank.

Copies of the Specification, Bills of Quantities and General Conditions of Contract may be obtained from the Borough Engineer and Surveyor, Municipal Offices, Earl Street, Flint, on payment of a £2 2s. deposit which will be returned upon receipt of a bona-fide Tender.

Tenders, in the prescribed form, must be delivered to the undersigned not later than Noon on MONDAY, 25th September, 1961, in a plain sealed envelope marked "Tender for Bryn-y-Garreg Sewage Scheme."

The Council do not bind themselves to accept the lowest or any Tender.

WILLIAM MCINTYRE,
Town Clerk.

Town Hall,
Flint.

22nd August, 1961.

BOROUGH OF CHINGFORD.

SURFACE DRESSING OF CARRIAGEWAYS—1961.

TENDERS are invited for the SURFACE DRESSING of about 36,000 sq. yd. of CARRIAGEWAY with Tar and Pretreated Granite Chippings and Shingle.

Form of Tender, Bills of Quantities and Specification may be obtained on application to the Borough Engineer, Town Hall, The Ridgeway, E.4, upon payment of a deposit of £2 2s., returnable in respect of a bona-fide Tender only.

Sealed Tenders, in the envelopes provided, which shall not bear any name or mark indicating the sender, are to be delivered to me not later than 12 Noon on WEDNESDAY, the 13th September, 1961, and Tenders received after that time will not be considered.

The Council do not bind itself to accept the lowest or any Tender.

CLIVE DENNIS,
Town Clerk.

Town Hall,
Chingford, E.4.

23rd August, 1961.

CITY OF BIRMINGHAM.

TO PUBLIC WORKS CONTRACTORS.

THE PUBLIC WORKS COMMITTEE invite TENDERS on a Fixed-price Basis for a Measure and Value Contract for the CONSTRUCTION of NEW CARRIAGEWAY and RECONSTRUCTION of EXISTING CARRIAGEWAY (Part) in NECHELLS GREEN RE-DEVELOPMENT AREA, Units 13 and 28.

Copies of the Specifications, Bills of Quantities and Forms of Tender may be obtained on payment of £2 2s. at the Office of SIR HERBERT J. MANZONI, City Engineer and Surveyor, Baskerville House, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. The deposit will be returned on receipt of a bona-fide Tender.

Plans for the work can be seen at Room 339, Baskerville House.

Tenders, enclosed in the envelopes provided for the purpose, must be sealed and delivered at the Town Clerk's Office (Room No. 8.21), Council House, Birmingham, 1, not later than 12 Noon on WEDNESDAY, 20th September, 1961, when they will be opened. Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

T. H. PARKINSON,
Town Clerk.

Council House,
Birmingham, 1.

CITY OF MANCHESTER.

TENDERS are invited for the CULVERTING in 30in. dia. CONCRETE TUBES and FILLING in approx. 330ft. of STREAM, together with one Manhole, at MANCHESTER AIRPORT.

Tender documents, returnable by 9.30 a.m. on MONDAY, 11th of September, 1961, may be obtained from the CITY SURVEYOR, Room 223, Town Hall, Manchester.

URBAN DISTRICT COUNCIL OF COULSDON AND PURLEY.

CONSTRUCTION OF 9IN. AND 4IN. DIA. SOIL SEWER.

OLD LODGE LANE, KENLEY.

TENDERS are invited for the ABOVE WORKS. Bill of Quantities and Form of Tender, prepared by H. M. COLLINS, A.M.I.C.E., may be obtained upon deposit of £3 3s. which will be refunded upon receipt of a bona-fide Tender.

Plans, Specifications and Conditions of Contract may be inspected at the Council Offices.

Sealed Tenders, in the envelope provided and endorsed "Old Lodge Lane Soil Sewer," must be delivered to the undersigned not later than First Post on MONDAY, 18th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

ERIC F. J. FELIX,
Clerk of the Council.

Council Offices,
Purley, Surrey.

CONTRACTS

HAMPSHIRE COUNTY COUNCIL.

ROADS AND BRIDGES.

TENDERS are invited for the SUPPLY and DELIVERY of the FOLLOWING:—

(a) Two Petrol-engined 10cwt. Vans.
(b) Two Diesel-engined 15cwt. Vans.
Various used vehicles are offered in part exchange. Specifications and Forms of Tender may be obtained from the undersigned.

H. N. JENNER,
County Surveyor.

The Castle,
Winchester.

August, 1961.

BOROUGH OF ASHTON-UNDER-LYNE.

PRIVATE STREET WORKS.

Separate TENDERS are invited on a Fixed-price Basis for WORKS of PRIVATE STREET IMPROVEMENT, comprising Draining, Metalling, Flagging, etc. Total length approx. 420 lin. yd. in four streets.

Details from MESSRS. CHARLES J. LOMAX AND SON, Chartered Civil Engineers, 68 Barton Arcade, Deansgate, Manchester, 3.

Tenders, in plain sealed envelopes endorsed "Tender for Private Street Works," to be received by the undersigned not later than FRIDAY, the 22nd September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

G. A. MALONE,
Town Clerk.

Town Hall,
Ashton-under-Lyne.

22nd August, 1961.

BOROUGH OF TORQUAY.

MAIN DRAINAGE.

TENDERS are invited from experienced contractors for the CONSTRUCTION of the FOLLOWING MAIN DRAINAGE WORKS which are situated in the built-up area of the town:

CONTRACT "A"—Approx. 816 lin. yd. of 21in. dia. P.C.C. Pipes in St. Marychurch Road, between Castle Circus and Cedar Court Road.

CONTRACT "B"—Approx. 674 lin. yd. of 18in. dia. P.C.C. Pipes in St. Marychurch Road and Manor Road between Westhill Avenue and Fore Street, St. Marychurch.

The work includes all Excavations, Construction of Manholes, various Connections, Backfilling and Reinstatement.

Tenders must tender for Contract "A" and Contract "B," but the Corporation reserve the right to accept a Tender in respect of Contract "A" or "B" only.

Written notice of desire to tender should be made to the Borough Engineer, Town Hall, Torquay, accompanied by a cheque for £5 5s. made payable to the Corporation of Torquay, which amount will be refunded upon receipt of a bona-fide Tender.

Tenders, which must be submitted in the manner indicated in the Contract documents, must be delivered to the Town Clerk not later than Noon on MONDAY, 2nd October, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

T. ELVED WILLIAMS,
Town Clerk.

Town Hall,
Torquay.

CITY OF ELY URBAN DISTRICT COUNCIL.

PRIORS COURT HOUSING SITE—ROAD AND SEWER WORKS.

The Council invite TENDERS on a Fixed-price Basis for ROAD AND SEWER WORKS on this site, comprising principally Demolition and Site Clearance; the Construction of approx. 4,914 sq. yd. of New Carriageway; the Provision of approx. 750 lin. yd. of Sewers up to 30in. dia., and incidental works.

Drawings may be inspected at, and documents obtained from, the Office of the City Engineer and Surveyor on payment of a deposit of £2 2s., repayable on receipt of a bona-fide Tender.

Tenders must be delivered to me, in plain sealed envelopes endorsed "Priors Court Housing Site—Road and Sewer Works," not later than 12 Noon on MONDAY, 18th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. I. BILLINGTON,
Clerk of the Council.

Urban Council Offices,
Lynn Road,
Ely, Cambs.

CALNE AND CHIPPENHAM RURAL DISTRICT COUNCIL.

DERRY HILL SEWERAGE.

TENDERS are invited for LAYING approx. 7,600yd. of 6in. SEWERS, with incidental works, at DERRY HILL, near Chippenham.

Copies of the Contract documents can be obtained from the Engineer to the Council, at the address below, against a deposit of Two Guineas, refundable on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, sealed in the envelopes provided, are to be delivered to the undersigned by Noon, 7th OCTOBER, 1961.

The Council does not bind itself to accept the lowest or any Tender.

H. F. HALES,
Clerk of the Council.

Bewley House,
Marshfield Road,
Chippenham.

USK RIVER BOARD.

RECONSTRUCTION OF PONTFAEN ARCH.

TENDERS are invited for the CONSTRUCTION of a REINFORCED CONCRETE BOX CULVERT under N.H. ROAD, Newport.

Plans, Specification and Form of Tender may be obtained from the undersigned on the payment of a deposit of £1 which will be returned on receipt of a bona-fide Tender.

Tenders are to be enclosed in a plain sealed envelope endorsed "Tender—Pontfaen Arch," and are to be received by the Clerk to the Board not later than the 14th SEPTEMBER, 1961.

The Board do not bind themselves to accept the lowest or any Tender.

G. MCLEOD, M.I.C.E.,
Engineer.

The Croft,
Goldcroft Common,
Caerleon, Mon.

24th August, 1961.

CONTRACTS

LANCASHIRE COUNTY COUNCIL.

The Lancashire County Council invite TENDERS for the SUPPLY of the FOLLOWING MATERIALS:—

- (1) Aggregate for Concrete.
- (2) Ashes (Fine and Rough).
- (3) Castings—Manhole Covers, Gully Grates, etc.
- (4) Cement.
- (5) Chippings—Pretreated Granite and Dry Limestone and Granite.
- (6) Concrete—Ready Mixed.
- (7) Hot Rolled Asphalt.
- (8) Kerbs, Flags, etc., Hydraulically Pressed.
- (9) Laying of Plastic White Lines and Reflector Studs.
- (10) Petrol, Derv, Kerosene and T.V.O.
- (11) Pipes, etc.—Earthenware.
- (12) Plastic White Line Material.
- (13) Sand for Concrete, Building and Gritting.
- (14) Tar, Tar Compounds and Bitumen.
- (15) Tar and Bitumen Macadam, etc., and Cold Asphalt.
- (16) Traffic Signs.
- (17) Tools (Shovels, Picks, etc.).
- (18) Concrete Pipes.

Contractors who desire Forms of Tender (to be filled in these available) should make application to the COUNTY SURVEYOR, County Hall, Preston (P.O. Box 9), not later than 30th SEPTEMBER, 1961, quoting Reference 179/51.

NORTH RIDING OF YORKSHIRE COUNTY COUNCIL.

TENDERS are invited for the SUPPLY, during the summer of 1962, of GROUND ROCK SALT for use on roads.

Apply for Tender Forms to the County Surveyor, County Hall, Northallerton, Yorkshire, enclosing a stamped addressed envelope. Tenders, in the envelope provided, should be returned to the CLERK of the COUNTY COUNCIL, County Hall, Northallerton, not later than 5 p.m. on MONDAY, the 16th October, 1961.

COUNTY BOROUGH OF SOUTHEND-ON-SEA.

UNIFORM CLOTHING.

TENDERS are invited for the SUPPLY of UNIFORM CLOTHING for passenger transport employees.

Specification and Tender Forms available from the General Manager and Engineer, Corporation Transport, 87 London Road, Southend-on-Sea, returnable by 3 p.m. on the 10th OCTOBER, 1961.

ARCHIBALD GLEN,
Town Clerk.

COUNTY BOROUGH OF CROYDON.

NOTICE TO BUILDERS.

Contractors who have the organisation and labour force to carry out the work expeditiously and wish to TENDER for BUILDING 74 DWELLING UNITS, comprising 64 Units in Two Eight-storey Blocks and 10 Units in Two Two-storey Blocks, at STROUD GREEN WAY on the ASHBURTON HOUSING ESTATE, should apply to the Borough Engineer, Town Hall, Croydon, for Bills of Quantities. Closing date for Tenders, 3rd OCTOBER, 1961.

E. TABERNER,
Town Clerk.

BOROUGH OF EALING.

TENDERS are invited for the CONSTRUCTION of a COVERED WAY, LAVATORIES and PRINTING ROOM at the rear of the TOWN HALL, UXBRIDGE ROAD, Ealing, W.5.

Details from Borough Engineer, Town Hall, Ealing, W.5, on payment of £2, returnable on receipt of bona-fide Tender.

Closing date of Tender, 22nd SEPTEMBER, 1961.

E. J. COPE-BROWN,
Town Clerk.

CITY AND COUNTY OF BRISTOL.

TENDERS are invited for SUPPLY of UNDER-MENTIONED MATERIALS during 12 months 1st November, 1961, to 31st October, 1962:—

Fencing Materials and Roofing Felt.

Rainwater Pipes and Fittings Cast Iron and Asbestos Cement.

Rubber Footwear, Donkey Jackets.

Forms of Tender, Specifications and Conditions from CITY ENGINEER AND PLANNING OFFICER, Cabot House, Deane Road, Bristol, 1. Tenders returnable by 14th SEPTEMBER.

CITY OF MANCHESTER.

HOUSING COMMITTEE.

TENDERS invited (returnable Noon on MONDAY, 2nd October, 1961) for the ERECTION of 281 DWELLINGS at CHAPEL LANE, HADFIELD, GLOSSOP (Contract No. 345).

Documents obtainable from the DIRECTOR of HOUSING, Town Hall, Manchester, 2.

CITY OF MANCHESTER.

TENDERS are invited for the SUPPLY of the UNDERMENTIONED STREET LIGHTING ITEMS during the 12 months' period commencing 1st January, 1962:—

Traffic Bollards, Cable, External Lighting Fittings for Road Signs, Flashing Beacon Globes, Glass Globes, Lanterns, Mantles, Lighting Standards (Concrete and Steel), Time Switches.

Tender Forms, returnable by 12th SEPTEMBER, 1961, from the CITY SURVEYOR, Town Hall, Manchester, 2.

CARLTON URBAN DISTRICT COUNCIL.

HIGHWAYS ACT, 1959 (PART IX).

PROPOSED MAKING-UP OF DARLEY AVENUE, CARLTON.

TENDERS are invited for the CONSTRUCTION of CARRIAGEWAYS, FOOTPATHS, and incidental Works at DARLEY AVENUE, Carlton.

Specifications, Bills of Quantities and Forms of Tender may be obtained from the Engineer and Surveyor, E. C. KIRK, ESQ., A.M.I.C.E., F.R.I.C.S., M.I.Mun.E., where Drawings and General Conditions of Contract may be inspected during normal office hours.

Deposit of £2, returnable on receipt of bona-fide Tenders not subsequently withdrawn.

Tenders, in a plain sealed envelope endorsed "Private Street Works," to reach the undersigned not later than 10 a.m., TUESDAY, 19th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

A. E. F. WALKER,
Clerk of the Council.

Council House,
Burton Road,
Carlton.

Nottingham.
25th August, 1961.

CONTRACTS

ADMINISTRATIVE COUNTY OF LEICESTER.

Builders and contractors desirous of being considered for inclusion in a selected list of contractors to TENDER on a firm-price basis for the ERECTION of the SECOND INSTALLMENT of BLABY C.E. PRIMARY SCHOOL, to submit names to COUNTY ARCHITECT, 123 London Road, Leicester, by 11th SEPTEMBER. Bills of Quantities available 18th SEPTEMBER. Tenders to be returned not later than 12 Noon on MONDAY, 8th October, 1961.

ADMINISTRATIVE COUNTY OF LEICESTER.

TENDERS are invited for ROAD RECONSTRUCTION and DIVERSIONS at BRUNTINGHORPE AIRFIELD. The total length of the work is approx. 2½ miles and consists of Site Clearance, Fencing Earthworks, Drainage and Roadworks. Further details and Form of Tender from the County Engineer and Surveyor, County Offices, Grey Friars, Leicester, on deposit of £5. Closing date, 22nd SEPTEMBER, 1961.

JOHN A. CHATTERTON,
Clerk of the County Council.
Grey Friars,
Leicester.

ADMINISTRATIVE COUNTY OF LEICESTER.

TENDERS are invited for the RECONSTRUCTION of a section of approx. 50yd. of ROUTE A.6 at MOUNTSOREL. The work consists of Widening and Realigning the existing Carriageway, Kerbing, Surface Water Drainage and all ancillary works. Further details and Form of Tender from the County Engineer and Surveyor, County Offices, Grey Friars, Leicester, on deposit of £5. Closing date, 22nd SEPTEMBER, 1961.

JOHN A. CHATTERTON,
Clerk of the County Council.
Grey Friars,
Leicester.

BOROUGH OF LUTON.

INSTALLATION OF BULK FUEL DEPOT—LUTON AIRPORT.

TENDERS invited for the PROVISION OF DRAINAGE, KERBING, ACCESS ROAD and STANDING. BUND WALLS and ancillary works for the installation of a bulk fuel depot; equipment to be supplied and erected by specialist contractor. Tender documents from Borough Engineer, Town Hall, Luton, on payment of £2.25. deposit, returnable after receipt of a bona-fide Tender not subsequently withdrawn. Cheques payable "Luton Corporation." Tenders to Town Clerk, Town Hall, Luton, by 12 Noon on FRIDAY, 22nd September, 1961.

BOROUGH OF BARKING.

SURFACING OF THE EAST HAM AND BARKING BY-PASS (A.13) ON THE WESTERN APPROACH TO THE RAILWAY BRIDGE.

TENDERS, returnable by 9 a.m., MONDAY, 25th September, 1961, are invited for the REGULATING OF LEVELS and RESURFACING with 2in. of HOT ROLLED ASPHALT approx. 1,650 sq. yd. of the ABOVE.

Specification, Bill of Quantities and Form of Tender can be obtained from the Borough Engineer and Surveyor, Town Hall, Barking, Essex.

E. R. FARR,
Town Clerk.
Town Hall,
Barking.

URBAN DISTRICT COUNCIL OF RAYLEIGH.

GROUP "B" STREET LIGHTING, 1961-62.

VARIOUS ROADS.

TENDERS are invited for the SUPPLY and ERECTION of 45 GROUP "B" CONCRETE STREET LIGHTING COLUMNS, with Lanterns and Metal Filament Lamps, together with 23 GROUP "B" STREET LIGHTING COLUMNS, with Lanterns and Sodium Vapour Lamps.

The Plans and General Conditions of Contract may be inspected at, and copy of the Bills of Quantities and Specification may be obtained from, the offices of the Engineer and Surveyor, Council Offices, Rayleigh, Essex.

Completed Tenders, sealed in the envelope provided, must be delivered to the undersigned not later than Noon on WEDNESDAY, 20th September, 1961.

The Council does not bind itself to accept the lowest or any Tender.

C. E. FITZGERALD,
Clerk of the Council.

Council Offices,
Hockley Road,
Rayleigh,
Essex.
25th August, 1961.

HOWDEN RURAL DISTRICT COUNCIL.

BUBWITH AND FOGGATHORPE SEWERAGE SCHEME.

CONTRACT NO. 1.

TENDERS are invited for the CONSTRUCTION of approximately 3,000yd. of 6in. diameter SEWER, 915yd. of RISING MAIN, ONE PUMPING STATION, ONE EJECTOR STATION and SEWAGE TREATMENT WORKS at BUBWITH; approximately 1,000yd. of 6in. diameter SEWER, 365yd. of RISING MAIN, ONE EJECTOR STATION and SEWAGE TREATMENT WORKS at FOGGATHORPE, in the Howden Rural District of Yorkshire. These villages are some three miles apart.

Contractors wishing to Tender for these Works should apply for the documents to the Council's Consulting Engineers, JOHN H. HAISTE AND PARTNERS, Belmont House, 20 Wood Lane, Headingley, Leeds, 6, enclosing a deposit cheque value Three Guineas, made payable to the Howden R.D.C., such deposit to be refunded on receipt of a bona-fide Tender and the return of all documents and Drawings.

Tenders, with the Bills of Quantities priced in ink, are to be submitted to the undersigned not later than 12 Noon on the 2nd OCTOBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender they may receive. The attention of tenderers is drawn to the fact that a similar but larger Sewerage Contract is in the course of preparation for the parishes of Newbort and Glibberdyke in the Howden Rural District. It is anticipated that Tenders for this Contract will be invited in the course of the next two or three weeks.

JOHN GREEN,
Clerk to the Council.
14 St. John Street,
Howden,
Goole.

CONTRACTS

COUNTY COUNCIL OF DURHAM.

TENDERS invited for SUPPLY of PROTECTIVE CLOTHING for all County Council establishments (including Borough of Stockton-on-Tees) during period ending 31st October, 1962.

Forms of Tender, returnable by 15th SEPTEMBER, 1961, and particulars from School Meals Service, 58 Hallgarth Street, Durham.
G. H. METCALFE,
Director of Education.

Shire Hall,
Durham.
21st August, 1961.

BUCKS. COUNTY COUNCIL.

LONDON-FISHGUARD TRUNK ROAD, A.40.

A.40/A.412 JUNCTION AND ROAD IMPROVEMENT, DENHAM.

TENDERS are invited for ROADWORKS (approximating 6000yd.), comprising Widening, Channelling in Concrete, Kerbing, Provision of Dual Carriageway with Concrete Reservation, Reconstruction of Junction, Asphalt Surfacing, Drainage and ancillary Works. Drawings may be seen at the offices of the County Surveyor's Department, Park Street, Aylesbury, and Contract documents may be obtained from the County Surveyor on deposit of £2, returnable on receipt of a bona-fide Tender.

Tenders must reach the undersigned by 10 a.m. on MONDAY, 25th September, 1961.

R. E. MILLARD,
Clerk of the Council.

County Hall,
Aylesbury,
August, 1961.

COUNTY BOROUGH OF DUDLEY.

RUSSELLS HALL ESTATE.

CONTRACT NO. 5.

ERECTION OF 272 DWELLINGS.

APPLICATIONS are invited from building contractors having the necessary plant, personnel and organisation, to be included in a list of contractors, from whom TENDERS will be invited for the ERECTION OF 272 DWELLINGS, in PAIRS OF HOUSES and BLOCKS OF TWO-STORY FLATS, all in Traditional Construction. Applications to Tender must be submitted to the Borough Architect, 5 Ednam Road, Dudley, Worcs., not later than FRIDAY, 15th September, 1961, and must be accompanied by a deposit of £2.25, returnable upon receipt of a bona-fide Tender. Cheques to be made payable to "Dudley Corporation." Tender documents will be sent out as soon as possible after the above date, at which time a date for receipt of Tenders will be indicated.

P. D. WADSWORTH,
Town Clerk.

The Council House,
Dudley,
Worcs.
24th August, 1961.

BOROUGH OF ILFORD.

MAINTENANCE OF FOOTWAY VERGES IN MASTIC ASPHALT.

The Corporation invites TENDERS for the RESURFACING of approximately 10,000 sq. yd. of MASTIC ASPHALT VERGES in the Borough of Ilford. Conditions of Contract may be inspected upon application to the Borough Engineer and Surveyor, Town Hall, Ilford, from whom the Special Conditions, Specification, Bill of Quantities and Form of Tender may be obtained on payment of a deposit of Two Guineas, which is returnable on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in a plain sealed envelope, bearing no name or mark indicating the tenderer and endorsed "Tender for Maintenance of Mastic Asphalt Footway Verges," must be delivered to the TOWN CLERK, Town Hall, Ilford, not later than 4 p.m. on the 26th SEPTEMBER, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

CITY OF YORK.

STREETS AND BUILDINGS COMMITTEE.

HIGHWAYS ACT, 1959 (CODE OF 1892).

TENDERS are invited for the MAKING-UP OF LIME AVENUE for a length of 97 lin. yd. from its junction with HEMPLAND AVENUE, comprising RE-LAYING OF THE FOOTPATH, KERB, and other incidental Works. The general conditions of Contract and Drawings may be inspected at, and the Specification, Bills of Quantities and Form of Tender obtained from the office of the undersigned on payment, by cheque made payable to York Corporation of £2, which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

The completed Form of Tender shall be delivered to the undersigned in the official printed Tender envelope, sealed and endorsed "Lime Avenue—Private Street Works," not later than Noon on TUESDAY, 12th September, 1961.

The lowest or any Tender will not necessarily be accepted.

CHAS. J. MINTER,
City Engineer, Surveyor
and Planning Officer.

7 St. Leonard's Place, York.

GLANFORD BRIGG RURAL DISTRICT COUNCIL.

WRAWBY SEWERAGE SCHEME.

CONTRACT NO. 3.

HOUSE CONNECTIONS IN PRIVATE LANDS.

TENDERS are invited for the LAYING OF approximately 5,000yd. of 4in. diameter HOUSE CONNECTIONS IN PRIVATE LANDS, together with Inspection Chambers, at WRAWBY, in the Glanford Brigg Rural District of Lincolnshire.

Contractors wishing to Tender for these Works should apply for the documents to the Council's Consulting Engineers, JOHN H. HAISTE AND PARTNERS, Belmont House, 20 Wood Lane, Headingley, Leeds, 6, enclosing a deposit cheque value Three Guineas, made payable to the Glanford Brigg R.D.C., such deposit to be refunded upon receipt of a bona-fide Tender and the return of all documents and Drawings.

Tenders, with the Bills of Quantities priced in ink, are to be submitted to the undersigned not later than 9 a.m. on the 13th SEPTEMBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

M. W. BAILEY,
Clerk of the Council.
Rural Council Offices,
Bibby Street,
Brigg,
Lincolnshire.

CONTRACTS

FLINTSHIRE COUNTY COUNCIL.

HIGHWAYS DEPARTMENT.

TENDERS are invited for HEATING and PLANING of COLD ASPHALT SURFACE of A.494, New Street and Chester Street, MOLD. Forms, obtainable from County Surveyor, Llwynegryn, Mold, to be returned before Noon, 25th SEPTEMBER, 1961.

W. HUGH JONES,
Clerk of the County Council.

County Buildings,
Mold.

COUNTY BOROUGH OF SOUTHAMPTON.

Southampton C.B.C. invites TENDERS for the FOLLOWING CONTRACT on Bills of Quantities now available:—

CONTRACT B.361.—Erection of a Three-storey Block of Traditional Flats, Type S.2.R., containing six flats, at 444 Winchester Road, Southampton.

Applications for tender documents should be received by the BOROUGH ENGINEER, Civic Centre, Southampton, not later than 10 a.m. on MONDAY, 11th September, 1961.

BOROUGH OF SUTTON AND CHEAM.

SUTTON CEMETERY EXTENSION (STAGE III).

TENDERS are invited for EXTENDING SUTTON CEMETERY, entailing the Construction of approximately 3,500 sq. yd. of Lean-mix Concrete Roads and Paths, Surfacing in Tuffed Macadam, Surface Water and Sub-sol Drains, and other Works.

Tender documents may be obtained on application to C. NEEDHAM, M.I.C.E., M.I.Mun.E., A.M.I.Struct.E., Borough Engineer and Surveyor, Municipal Offices, High Street, Sutton, on payment of a deposit of £2.25., which will be returned on receipt of a bona-fide Tender. Cheques payable to Sutton and Cheam Borough Council.

Tenders, in the envelope provided, bearing no indication of the name of the sender and endorsed "Tender for Sutton Cemetery Extension (Stage III)," must be delivered to the undersigned not later than 12 Noon on WEDNESDAY, the 4th October, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

A. PRIESTLEY,
Town Clerk.

Municipal Offices,
High Street,
Sutton,
Surrey.
August, 1961.

BOROUGH OF MAIDSTONE.

SHEALS CRESCENT AND MILL STREET IMPROVEMENTS.

TENDERS are invited for the SUPERELEVATION of SHEALS CRESCENT with BITMAC and COLD ASPHALT, and the RECONSTRUCTION of MILL STREET with CONCRETE and HOT ROLLED ASPHALT, from the Borough Engineer, Palace Avenue, Maidstone.

T. SCHOLES,
Town Clerk.

BOROUGH OF MAIDSTONE.

OXFORD ROAD RECONSTRUCTION.

TENDERS are invited for the RECONSTRUCTION of about 3,000 sq. yd. of ROAD in HARDCORE and TARMACADAM and SURFACING of about 2,000 sq. yd. of PATH in COLD ASPHALT. All documents may be obtained from the Borough Engineer, Palace Avenue, Maidstone. Tenders to be received by me by 10 a.m. on 18th SEPTEMBER.

T. SCHOLES,
Town Clerk.

WILLENHALL URBAN DISTRICT COUNCIL.

INSTALLATION OF CLASS "A" AND "B" STREET LIGHTING.

TENDERS are invited for the ERECTION ONLY of 35 STANTON-TYPE 10P (Class "A") and 10P STANTON-TYPE 8P (Class "B") STREET LIGHTING COLUMNS and the Provision of Lanterns and the Wiring thereof, in VARIOUS STREETS within the Urban District.

The General Conditions of Contract and Plans may be inspected at, and the Specification, Bills of Quantities and Form of Tender obtained, from the office of the Engineer and Surveyor, Town Hall, Willenhall.

Tenders, in plain sealed envelopes appropriately endorsed, should reach the undersigned by Noon on MONDAY, 18th September, 1961.

JOHN R. RIDING,
Clerk of the Council.

Town Hall,
Willenhall.

SOUTHAM RURAL DISTRICT COUNCIL.

SEWERAGE AND SEWAGE TREATMENT WORKS AT FENNY COMPTON.

The Southam Rural District Council invite FIXED-PRICE TENDERS from competent civil engineering contractors experienced in similar work for SEWERAGE and SEWAGE TREATMENT, comprising approximately 4,000yd. of 9in. and 6in. diameter Sewers, the Construction of Treatment Works including Pumping Station, Settling Tanks, Filters, Sludge Drying Beds, etc., and incidental Works.

Contractors wishing to submit a Tender should apply in writing to the Council's Consulting Engineers, MESSRS. RICHARDS AND DUMBLETON, Cornwall Buildings, 45 Newhall Street, Birmingham 3, from whom copies of the Specification, Bills of Quantities and Form of Tender may be obtained on and after Monday, the 4th September, 1961, on payment of a deposit of £3, by cheque made payable to the Southam Rural District Council.

The deposits will be refunded to contractors who submit bona-fide Tenders not subsequently withdrawn and accompanied by Priced Bills of Quantities, and after the return of any Drawings supplied. Drawings, Specification and Bills of Quantities may be seen at the office of the undersigned or at the office of the Consulting Engineers during usual office hours on and after Monday, the 4th of September, 1961.

Sealed Tenders, on the official Form of Tender enclosed in the envelope endorsed "Fenny Compton Sewerage and Sewage Disposal—Contract 1," are to be delivered to the undersigned not later than 12 Noon on MONDAY, the 2nd of October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. I. YOUNG,
Clerk of the Council.

Council Offices,
Southam,
Near Leamington Spa,
Warwickshire.

CONTRACTS

COUNTY COUNCIL OF MIDDLESEX.
YEADING BROOK (WESTERN ARM),
RUISLIP GARDENS.

TENDERS are invited for the CONSTRUCTION of a RELIEF CULVERT to carry YEADING BROOK under the WESTERN REGION RAILWAY at RUISLIP GARDENS STATION, WEST END ROAD, RUISLIP.

This will comprise the Driving of Two Tunnels through the Railway Embankment and Lining with Reinforced Concrete Segments 5ft. 6in. dia. (the length of tunnel is approx. 140ft.), together with ancillary works of Forming a Channel, Construction of Rectangular Culvert, Mass Concrete Abutments and Invert, and Stressed Concrete Beams as Decking (internal dimensions 50ft. in length x 15ft. wide x 5ft. 6in. deep). Construction of Head Walls and Concrete Inverts.

Plans may be inspected and contract documents obtained from the County Engineer, Middlesex House, 20 Vauxhall Bridge Road, Westminster, S.W.1, on payment of a deposit of £2.

Tenders are to be returned sealed (in the envelope supplied) to the undersigned by not later than Noon on WEDNESDAY, September 27th, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

K. GOODACRE,

Clerk of the County Council.

DURHAM COUNTY COUNCIL.
AGENT AUTHORITY FOR MINISTRY OF TRANSPORT.DARLINGTON BY-PASS MOTORWAY—
ADVANCE CONSTRUCTION OF CERTAIN BRIDGES.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of the FOLLOWING:—

- (1) Bridge over River Tees. — Three spans totalling 250ft. approx. between abutments. Prestressed Concrete Beam and Slab Deck, R.C. Piers and Stone-faced Abutments and Wingwalls on Piled Foundations.
- (2) Bridge over Darlington-Barnard Castle Branch Railway. — Single span 30ft. approx. Prestressed Concrete Deck, R.C. Abutments and Stone-faced Wingwalls.

Time fixed for contract is 18 months. Contract documents may be obtained from the County Surveyor, Aykley Heads, Durham, on payment of a deposit of £25, to be returned on receipt of a bona-fide Tender which is not subsequently withdrawn. Contract Drawings may be inspected by appointment at the County Surveyor's Office, and tenderers may obtain copies thereof on payment of £10 per set, to be refunded on return of the Drawings in good condition.

Tenders from suitably experienced contractors only will be considered, and tenderers may be required to furnish evidence of their experience and ability in the execution of such works. The Council do not bind themselves to accept the lowest or any Tender.

Tenders, sealed in plain envelopes, endorsed "Tender for Darlington By-pass Bridges," to be delivered to the undersigned not later than Noon, on WEDNESDAY, 4th October, 1961.

J. T. BROCKBANK,

Clerk of the County Council.

Shire Hall,
Durham,
23rd August, 1961.SOUTHAMPTON COUNTY BOROUGH
COUNCIL.

TENDERS are invited for ERECTION of ANNEXE (Four-classroom, Assembly Hall, etc.) at WESTON PARK JUNIOR SCHOOL, on site of former C.I. MAIN, Bill of Quantities to BOROUGH ARCHITECT, Civic Centre, Southampton, by 9th SEPTEMBER, 1961. Tender returnable by 12th OCTOBER, 1961.

BOROUGH OF PORT TALBOT.

CWMAYON/BAGLAN/SANFIELDS WATER MAIN.

TENDERS are invited for the PROVISION and LAYING of approximately 2,800yd. of 10in. diameter C.I. MAIN and 3,600yd. of 15in. diameter C.I. MAIN. Drawings may be inspected at the Municipal Buildings, Port Talbot, and Specification, Bill of Quantities and Form of Tender may be obtained from MR. G. V. GRIFFITHS, A.M.I.C.E., on payment of a deposit of £2 2s., which will be returned to unsuccessful tenderers.

Tenders, in plain envelopes endorsed "Cwmayon/Sandfields Water Main," to reach the undersigned not later than Noon, 25th September, 1961.

W. KING DAVIES,

Town Clerk.

Municipal Buildings,

Aberavon,

Port Talbot,
25th August, 1961.HORNCHURCH URBAN DISTRICT
COUNCIL.

RECONSTRUCTION OF A.13 ("LENNARDS ARMS").

TENDERS are invited for the ABOVE WORKS, comprising the FOLLOWING:—

- (1) Re-laying of existing Kerb (approx. 200 lin. yd.).
- (2) Providing new Kerb (approx. 600 lin. yd.).
- (3) Heating and Planing existing Carriageway Surface (approx. 3,000 sq. yd.).
- (4) Providing and Spreading Hot Rolled Asphalt Base Course (approx. 800 tons).
- (5) Providing and Spreading Hot Rolled Asphalt Wearing Course with Precoated Chippings (approx. 8,000 sq. yd.).

Together with all ancillary works. The Conditions of Contract, Specification and Bills of Quantities may be obtained from the Office of the Engineer and Surveyor, Council Offices, Billet Lane, Hornchurch, upon payment of a deposit of Two Guineas, which will be refunded in the case of a bona-fide Tender, upon acceptance of a Tender by the Council.

The documents and priced Bill of Quantities must be returned to the undersigned not later than Noon on MONDAY, 25th September, 1961, sealed in the envelope provided, which shall bear no indication of the identity of the person(s) tendering.

P. L. COX,

Clerk of the Council.

Council Offices,

Billet Lane,

Hornchurch, Essex.

SOUTH MANCHESTER HOSPITAL
MANAGEMENT COMMITTEE.

Applications are invited from firms who wish to be placed on the approved list of firms who may be invited from time to time to TENDER for CARRYING OUT BUILDING, ENGINEERING, ELECTRICAL and DECORATIVE WORKS at the HOSPITALS and CLINICS under the control of the Committee.

Application forms may be obtained from the GROUP SUPPLIES OFFICER, Withington Hospital, Manchester, 20.

CONTRACTS

COUNTY BOROUGH OF BURY.
PRIVATE STREET WORKS.

TENDERS invited for MAKING UP of BACK PARKHILLS ROAD.

Details from Borough Engineer, Town Hall, Bury, where Drawings may be inspected.

Tenders, enclosed in official envelope provided, must reach me not later than 16th SEPTEMBER, 1961.

EDWARD S. SMITH,

Town Clerk.

Town Hall,
Bury,
25th August, 1961.

BOROUGH OF MAIDSTONE.

SURFACING OF EXISTING CARRIAGEWAYS,
PARKWOOD ESTATE.

TENDERS are invited for the FINAL SURFACING of EXISTING CARRIAGEWAYS at PARKWOOD ESTATE involving the Laying of approximately 410 tons of Cold Asphalt by Machine.

Specification and Bills of Quantities may be obtained from the office of the Borough Engineer, Palace Avenue, Maidstone.

Tenders, in plain sealed envelopes endorsed "Parkwood Surfacing," must reach the undersigned not later than 10 a.m. on MONDAY, 11th September, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

T. SCHOLES,

Town Clerk.

13 Tonbridge Road,
Maidstone.

BOROUGH OF TAUNTON.

PROVISION OF DRESSING CUBICLES,
PUBLIC BATHS.

TENDERS are invited for the SUPPLY ONLY of 61 NON-MAINTENANCE-TYPE DRESSING CUBICLES.

Details to be obtained from Borough Engineer, St. Paul's House, Taunton. Tenders returnable to the undersigned by 10 a.m. on TUESDAY, 12th September, 1961.

K. A. HORNE,

Town Clerk.

Municipal Buildings,
Taunton,
Somerset

BOROUGH OF EPSOM AND EWELL.

BRICK BOUNDARY WALL REPAIRS—
BOURNE HALL, EWELL.

The CORPORATION invite TENDERS from building contractors for TAKING DOWN and REINSTATING two sections of the BOUNDARY WALL to BOURNE HALL.

Further particulars and copies of the Specification and Form of Tender may be obtained from the Office of Mr. COLIN COBBETT, I.C.E., M.I.Mun.E., Borough Engineer and Surveyor, Town Hall, Epsom, during working hours, upon payment of £2 2s. deposit. Deposits will be returned to contractors submitting a bona-fide Tender not subsequently withdrawn.

Tenders must be delivered to me at the address mentioned below not later than Noon on MONDAY, the 25th September, 1961, and no Tender will be received and considered unless it is enclosed in a plain sealed envelope, endorsed "Boundary Wall Repairs—Bourne Hall." This envelope must not bear any mark or name indicating the sender.

The Corporation do not bind themselves to accept the lowest or any Tender.

EDWARD MOORE,

Town Clerk.

Town Hall,
The Parade,
Epsom,
August, 1961.CITY AND COUNTY OF NEWCASTLE
UPON TYNE.

The LIBRARIES COMMITTEE of the CITY COUNCIL is prepared to receive TENDERS for the CONSTRUCTION of a BRANCH LIBRARY in JESMOND.

Bills of Quantities and Forms of Tender will be ready on 2nd SEPTEMBER, 1961. Drawings may be inspected at the Office of the Architect, Henry Faulkner Brown, 13 Archbold Terrace, Jesmond, Newcastle upon Tyne, 2.

Contractors desirous of tendering should forward their names to the undersigned, together with a deposit of Five Guineas, which will be returned after receipt of a bona-fide Tender.

Tenders, sealed in the envelope provided, are to be delivered not later than 10 a.m. on FRIDAY, 15th September, 1961, to the Office of the Town Clerk, Town Hall. Others will not be considered.

The library is of unusual construction and is equipped with special fittings of high quality. The Committee does not bind itself to accept the lowest or any Tender.

JOHN ATKINSON,

Town Clerk.

Town Hall,
Newcastle upon Tyne, 1.

RUGELEY URBAN DISTRICT COUNCIL.

SURFACE WATER OUTFALL.

FIXED-PRICE TENDER.

TENDERS are invited for the CONSTRUCTION of 330 lin. yd. of 18in. diameter, 235 lin. yd. of 30in. diameter and 200 lin. yd. of 48in. diameter CONCRETE PIPES, 515 lin. yd. of OPEN DITCH and WIDENING OUT of 2,100 lin. yd. of EXISTING DITCH, together with all ancillary Works, including a Canal Crossing.

Documents may be obtained from MR. B. M. ROLLINSON, A.M.I.Mun.E., M.R.S.H., Engineer and Surveyor, The Council House, Rugeley. Drawings may be inspected in this office during normal working hours.

Tenders, in the envelopes provided, should be returned not later than First Post on TUESDAY, 19th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

F. WILLIAMS,

Clerk of the Council.

The Council House,
Rugeley,
Staffs.

25th August, 1961.

STOCKPORT CORPORATION.

TENDERS.

TENDERS invited for FIRST STAGE of SOIL STRIPPING at WALNUT TREE ESTATE, CHEADLE HEATH, Stockport. Contract consists of Stripping 20,000 sq. yd. of Topsoil to average depth of 9in. and Dumping on Site. Tender Form, Specification and Bill of Quantities from BOROUGH SURVEYOR, Town Hall, Stockport, and returned, sealed in the envelope provided, by Noon, 11th SEPTEMBER, 1961.

CONTRACTS

CITY OF MANCHESTER.
HAWTHORN ROAD TIP SITE—SEWERING WORKS.

TENDERS are invited for LAYING approx. 350 lin. yd. 36in. dia., 250 lin. yd. 12in. dia., SURFACE WATER SEWERS, and ancillary works.

Tender documents (returnable by 9.30 a.m. MONDAY, 2nd October, 1961) obtainable from the CITY SURVEYOR (Room 223), Town Hall, Manchester, 2.

CONTRACTS AVAILABLE.—Roads, Sewers, Light and Heavy Civil Engineering, Excavation and Building. No need to be short of work if you use Britain's top PRIVATE ESTIMATOR and give your tenders a chance they never had before. No tender too large or too small. Practical help with modest fees. Phone, call or write: R. J. CARR, 73 Leadenhall Street, London, E.C.3. Telephone: Avenue 9676-1120.

TARMACADAM AND TARSPRAYING.—Tennis Courts, Estate Roads and Footpaths. Direct Contracts or Sub-contracts. Distance no object. All work guaranteed.—F. GILBRAITH, 35 Abbey Street, Accrington.

SUB-CONTRACTS WANTED.—SEWERS, HEADINGS, WATER and GAS MAINS, UNDERGROUND CABLES, etc.—J. MOLLOY, 102 Elford Place, Harehills Road, Leeds, 8.

For Contracts received too late for
classification see page 1045

APPOINTMENTS VACANT

COUNTY BOROUGH OF BURY.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS:—

- (a) Senior Assistant Architect, A.P.T. IV (£1,140-£1,310).
- (b) Assistant Architect (2), A.P.T. I or II or III (£645-£815 or £815-£960 or £960-£1,140).
- (c) Senior Assistant Planning Officer (2), A.P.T. V (£1,140-£1,310).

Applicants for appointment (a) should be experienced in dealing with contracts for large public works, and must be professionally qualified.

Applicants for appointment (b) should have general experience in the design and construction of public buildings, and success in Part I or Part II of the R.I.B.A. Final or Special Examination, or other equivalent at one of the recognised schools of architecture will entitle the applicant to appointment on A.P.T. III.

Applicants for appointment (c) should be experienced in either development control or redevelopment and research projects, and should be professionally qualified.

Consideration will be given to the provision of housing accommodation.

Applications, stating age, qualifications, experience, present and previous appointments, together with the names of two referees, must reach me by the 11th SEPTEMBER, 1961.

EDWARD S. SMITH,

Town Clerk.

Town Hall,
Bury.

COUNTY BOROUGH OF HUDDERSFIELD.

BOROUGH ENGINEER AND SURVEYOR'S
DEPARTMENT.

APPLICATIONS are invited for the FOLLOWING POSITIONS:—

- (a) Senior Assistant Engineer—Grade A.P.T. IV (£1,140-£1,310).
- (b) Engineering Assistant (Roads) — Grade A.P.T. III (£960-£1,140).
- (c) Engineering Assistant (Roads) — Grade A.P.T. II (£815-£960).
- (d) Surveying Assistant (Roads)—Grade A.P.T. II (£815-£960).
- (e) Quantity Surveying Assistant—Grade A.P.T. I (£645-£815).

Applicants for position: (a) should be Associate Members of the Institution of Civil Engineers or the Institution of Municipal Engineers, and should have practical experience on roadworks and/or the design and construction of reinforced concrete.

(b) should preferably have passed the Final Examination of either of the above-mentioned Institutions and have general experience in a Municipal Engineer's Office.

(c) should have passed the Intermediate Examination of either of the above-mentioned Institutions, or be University Graduates.

(d) should be competent land surveyors, with experience of chain and instrument surveying, and preferably have been trained in the Ordnance Survey Department.

(e) should have experience of the measurement of, and estimating for, civil engineering and building works, and experience of work study would be an advantage.

All the appointments are superannuable and subject to medical examination.

Applications, stating age, experience, and the names of not more than three referees, should reach A. L. PERCY, M.I.C.E., Borough Engineer and Surveyor, High Street Buildings, Huddersfield, not later than MONDAY, the 11th September, 1961.

Canvassing is prohibited and will be considered a disqualification.

HARRY BANN,

Town Clerk.

Town Hall,
Huddersfield.

COUNTY BOROUGH OF NEWPORT.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS in the Borough Engineer's department:—

ENGINEERING ASSISTANTS:

- (a) One Senior Assistant Engineer, Grade IV (£1,140-£1,310).
- (b) One Engineering Assistant, Grade III/IV (£960-£1,310).
- (c) One Engineering Assistant, Grade II (£815-£960).
- (d) Two Engineering Assistants, Grade I (£645-£815).

PLANNING ASSISTANT, Grade A.P.T. III/IV (£960-£1,310).

Applicants will be expected to have appropriate qualifications as specified in the Scheme of Conditions of Service.

The commencing salary for each appointment will be at any point within the appropriate grades, depending upon experience.

A five-day week is in operation. Approved furniture removal expenses will be paid.

Applications, with copies of two recent testimonials, should reach the BOROUGH ENGINEER, Civic Centre, Newport, Mon., by the 18th SEPTEMBER, 1961.

APPOINTMENTS VACANT

LANCASHIRE COUNTY COUNCIL.

APPLICATIONS are invited from suitably qualified ENGINEERING ASSISTANTS for vacancies on Grades A.P.T. III (£960-£1,140) and A.P.T. IV (£1,140-£1,310) in the County Surveyor's Department at Preston, in connection with large-scale road and bridge schemes, drainage and sewerage work, soils mechanics and private street works.

The commencing salaries will be in accordance with qualifications and experience.

Applications, stating the Grade applied for, and quoting Ref. No. 123/12, names and addresses of two referees, and details of qualifications and experience, to be delivered to the COUNTY SURVEYOR, P.O. Box No. 9, County Hall, Preston.

MONTGOMERYSHIRE COUNTY COUNCIL.

HIGHWAYS DEPARTMENT.

APPLICATIONS are invited for the FOLLOWING:

- Principal Assistant Engineers on Grades A.P.T. IV (£1,140-£1,310) and A.P.T. V (£1,310-£1,480), and Engineering Assistants on Grades A.P.T. II (£815-£960) and A.P.T. III (£960-£1,140), according to qualifications and experience.
- District Surveyor on Grade A.P.T. III (£960-£1,140).

Particulars and Forms of Application may be obtained from the undersigned.

P. E. WHITE,
Clerk of the County Council.

County Offices,
Welshpool,
August, 1961.

NORFOLK COUNTY COUNCIL.

HIGHWAYS DEPARTMENT.

APPLICATIONS are invited for the UNDER-MENTIONED APPOINTMENTS at Head Office, Norwich:

- Two Senior Engineers (Roads), Grade IV/V (£1,140-£1,480 p.a.).

Applicants should be Associate Members of the Institution of Civil Engineers, or hold an equivalent qualification by examination. They must be competent Surveyors, having had experience of the design of major improvements, setting-out and construction.

A motor car is essential, and the appointed officers will be paid an essential users' car allowance in accordance with the recommendations of the National Joint Council, as adopted and applied from time to time by the County Council. Loans available for purchase, if required.

The appointments will be on the permanent establishment of the Department, terminable by one month's notice on either side. The Provisions of the Local Government Superannuation Acts, 1937 to 1953, apply. The successful candidates will be required to pass a medical examination. Grant towards removal expenses.

The National Joint Council Service Conditions apply in general.

Further particulars and Application Forms obtainable from 1, COUNTY SURVEYOR, County Offices, Thorpe Road, Norwich, Norfolk, NR4 7A.

Latest date for completed Application Forms: 22nd SEPTEMBER, 1961.

BOROUGH OF SWINTON & PENDLEBURY.

CLIFTON DRAINAGE—CONTRACT NO. 4.

APPOINTMENT OF RESIDENT ENGINEER.

APPLICATIONS are invited for the APPOINTMENT OF RESIDENT ENGINEER to supervise the construction of approx. 1,100 lin. yd. of spun-iron, cast-iron and steel sewers varying in diameter from 9in. to 30in., with manholes, etc., and appurtenant work. The work will be executed by contract, and the Resident Engineer will be under the direction and control of the Corporation's Consulting Engineers, MESSRS. G. B. KERSHAW AND KAUFMAN. The post is not superannuable.

The salary will be at the rate of £1,400 p.a. plus car allowance of £90 p.a., and the appointment will be determinable by one month's notice. Details of holiday and sick-pay entitlement are obtainable from the undersigned. It is anticipated that the duration of the appointment, subject to satisfactory service, will be approx. 12 months.

It is essential that applicants shall have had considerable and wide experience in a senior capacity on similar works of sewerage.

Applications, endorsed "Resident Engineer—Clifton Drainage—Contract No. 4," stating age, qualifications and when disengaged, and giving full particulars of previous experience, together with the names of three persons to whom reference can be made, must be delivered to the undersigned not later than 12 Noon on WEDNESDAY, the 20th day of September, 1961.

J. W. BLOMELEY,
Town Clerk.

Town Hall,
Swinton, Lancs.,
23rd August, 1961.

CITY OF OXFORD.

WATER DEPARTMENT.

ASSISTANT MAINS SUPERINTENDENT.

APPLICATIONS are invited for the ABOVE APPOINTMENT for the Oxford Area of Supply.

The duties, under the Mains Superintendent, call for experience in mainlaying, the supervision and control of stores, plant and equipment, and in the handling of men.

The post is permanent and pensionable. Medical examination required. Salary Grade Misc. VI (£760-£825 p.a.). Overtime payable.

Applications, on forms provided, to be received by the City Water Engineer, Denton House, Wiley Turn, Oxford, not later than 8th SEPTEMBER, 1961.

HARRY FLOWMAN,
Town Clerk.

Oxford.

CITY OF NOTTINGHAM.

CITY ENGINEER'S DEPARTMENT.

ASSISTANT QUANTITY SURVEYOR
(GRADE A.P.T. V—£1,310-£1,480).

APPLICATIONS are invited for the ABOVE POSITION from persons capable of taking responsibility for all the quantity surveying work on individual major building projects.

They should be Associates of the Royal Institution of Chartered Surveyors, or if not so qualified, have extensive professional experience. Commencing salary will depend on experience.

Applications are to be made on forms to be obtained from the CITY ENGINEER AND SURVEYOR, Guildhall, Nottingham to whom they should be returned not later than 11th SEPTEMBER, 1961.

APPOINTMENTS VACANT

BERMUDA.

PUBLIC WORKS DEPARTMENT.

ASSISTANT ROADS ENGINEER.

Duties: To assist the Roads Engineer in the general administration and supervision of the on-site undertakings of the Road Branch.

Qualifications: Candidates (aged 30-35) should have either a University degree, or equivalent, recognised by the Institution of Civil Engineers, or have passed, or be otherwise exempt from, Parts I and II of the Final Examinations of the Institution of Civil Engineers, or be A.M.I.Mun.E. They must have had not less than five years' experience in Civil Engineering, including some on road construction work.

Terms of Appointment: On contract for one tour of 36 months.

Emoluments: £2,000-£2,375 p.a.

Apply DIRECTOR OF RECRUITMENT, Department of Technical Co-operation, Carlton House Terrace, London, S.W.1, quoting RC.210/13/01/D14, and giving full name, age, and brief details of qualifications and experience.

BERMUDA.

PUBLIC WORKS DEPARTMENT.

CIVIL ENGINEER.

Duties: General civil engineering duties for Public Works Department, including roads, bridges, small docks, engineering design and construction.

Qualifications: Candidates (aged 27-35) should have a University degree recognised by the Institution of Civil Engineers, or be A.M.I.C.E., with at least five years' general civil engineering experience, preferably including bridge and underwater construction.

Terms of Appointment: On contract for one tour of 36 months.

Emoluments: £2,000-£2,375 p.a.

Apply DIRECTOR OF RECRUITMENT, Department of Technical Co-operation, Carlton House Terrace, London, S.W.1, quoting RC.210/13/02/D14, and giving full name, age, and brief details of qualifications and experience.

LINDSEY COUNTY COUNCIL.

HIGHWAYS DEPARTMENT.

VACANCY on A.P.T. III/IV (£960-£1,310 p.a.) for fully qualified ENGINEERING ASSISTANT with practical experience of highway design and construction. Local Authority experience not essential. 5-day week and car allowance. M.J.C. Conditions.

Applications must be received by 19th SEPTEMBER, 1961, on forms obtainable from COUNTY SURVEYOR, County Offices, Lincoln.

WANDSWORTH BOROUGH COUNCIL.

CLERK OF WORKS.

Two NEEDED, with extensive experience. REQUIRED for supervision of highway, sewer, structural, and piling works carried out by contract. Grade A.P.T. III (£1,605-£1,185).

Forms obtainable from Borough Engineer, Municipal Buildings, S.W.18. Closing date: 13th SEPTEMBER.

J. NOEL-MARTIN,
Town Clerk.

BASILDON DEVELOPMENT CORPORATION.

CHIEF ENGINEER'S DEPARTMENT.

A VACANCY exists for a male LABORATORY ASSISTANT in the Soils and Materials Testing Laboratory at the Corporation Headquarters. The post is superannuable and is subject to one month's notice on either side. The salary is available.

The post is in the General Division with salary range £220-£630 (promotion bar £520): the starting salary will depend upon age, qualifications and experience.

Candidates should have reached a good general standard of education, preferably with General Certificate of Education, including passes in Chemistry and Physics. The person appointed will be required to carry out, under direction, tests on soil, concrete, and building materials.

Applications, giving age, details of education, qualifications, training and experience, together with the names of two technical referees, should reach the GENERAL MANAGER, Basildon Development Corporation, Gifford House, Basildon, Essex, by First Post on 18th SEPTEMBER, 1961.

LEE CONSERVANCY CATCHMENT BOARD.

APPOINTMENT OF SENIOR ASSISTANT ENGINEER.

APPLICATIONS are invited for the ABOVE APPOINTMENT within the salary range of Lettered Grades (Scale "C"), from £1,560 to £1,825.

The successful applicant will be particularly concerned with civil engineering works of some magnitude in connection with large flood alleviation schemes. The works involved include heavy excavation; road and railway bridges; mass, reinforced and prestressed concrete work; large-capacity culverts and sewers; and other ancillary works.

Applicants should be Members or Associate Members of the Institution of Civil Engineers, and have had considerable experience in the design and execution of important land drainage and other civil engineering work, preferably with a catchment board or river board. Practical knowledge of the use of prestressed concrete would be an advantage. The appointment will be subject to one month's notice on either side, and to the National Scheme of Conditions of Service for Local Authorities' Administrative, Professional, Technical and Clerical Services.

Travelling and subsistence allowances in force from time to time will be payable: the successful applicant will be required to provide his own car, and will be entitled to an essential user allowance.

Applicants are requested to state whether they wish to be considered for employment on the basis of the purposes of the Local Government Superannuation Acts and, if so, give particulars of previous contributory and non-contributory service. A medical examination may be required.

Applications, giving particulars of age, qualifications, experience, and present appointment and salary, together with copies of not more than three recent testimonials, should be sent, in an envelope marked "Senior Assistant Engineer," to N. MEDRINGTON, A.M.I.C.E., M.I.W.E., Engineer to the Board, The Grange, Crossbrook Street, Waltham Cross, Herts., so as to arrive not later than First Post on MONDAY, 25th September, 1961.

J. L. SPILLER,
Clerk of the Board.

Head Office of the Board,
Brettenham House,
Lancaster Place,
Strand,
London, W.C.2.

APPOINTMENTS VACANT

HAMPSHIRE COUNTY COUNCIL.

ROADS AND BRIDGES DEPARTMENT.

ROAD FOREMAN REQUIRED for County Surveyor's Department, for work in the New Forest Division. Misc. Grade IV (£625-£685) plus overtime, commencing salary according to qualifications and experience.

A house will be available at Totton at a moderate rent.

Candidates should be not more than 45 years of age, and must have had experience in the handling of men and road construction work.

A motor van will be provided and maintained by the County Council.

The post is subject to a satisfactory medical report, would approved cases. The County Council assists with removal and separation allowances.

Application Forms, returnable by the 14th SEPTEMBER, from the COUNTY SURVEYOR, The Castle, Winchester.

COUNTY BOROUGH OF BURY.

APPLICATIONS invited for APPOINTMENT of a TEMPORARY CIVIL ENGINEERING CLERK of a Works. V. (£760-£825).

Candidates should be capable of dealing with large contracts covering all aspects of sewage works construction. The duration of the first contract is approx. six months, but it is possible that the appointment will be extended for a period of up to five years until the completion of the first stage extensions.

Applications, stating age, experience, present and previous appointments, together with the names of two referees, must reach me by 20th SEPTEMBER, 1961.

EDWARD S. SMITH,
Town Clerk.

Town Hall,
Bury.

22nd August, 1961.

BOROUGH OF KETTERING.

APPOINTMENT OF SENIOR ENGINEERING ASSISTANT.

APPLICATIONS are invited for the APPOINTMENT in the Borough Surveyor's Department of a SENIOR ENGINEERING ASSISTANT at a salary in accordance with A.P.T. Grade IV (£1,140-£1,310 p.a.) of the National Scales of Salaries.

Candidates must be the Testamur of the Institution of Municipal Engineers, or an equivalent qualification. The type of work carried out in the Borough Surveyor's Department is of a varied character, and will offer good experience to the successful candidate.

Housing accommodation will be available if required. The appointment will be subject to the National Scheme of Conditions of Service, and Local Government Superannuation Acts.

Applications, stating age, qualifications and experience, together with the names of two referees, should reach the undersigned not later than the 23rd SEPTEMBER, 1961.

D. DUNSFORD PRICE,
Town Clerk.

Council Offices,
Huxloe Place,
Kettering.

CITY OF CARLISLE.

APPOINTMENT OF CLERK OF WORKS.

APPLICATIONS are invited for the ABOVE APPOINTMENT in the City Engineer's Department. Salary, £12 per week.

The appointment, which is temporary for a period of 18 months with possible further extension, subject to satisfactory service, is in the first place for the supervision of the construction of roads and sewers on housing estates, but may include other works of a similar nature.

Applications, giving age, training, full details of experience, with names and addresses of two persons to whom reference may be made, to City Engineer, 18 Fisher Street, Carlisle, not later than 23rd SEPTEMBER, 1961.

H. D. A. ROBERTSON,
Town Clerk.

CITY OF CARLISLE.

CITY ENGINEER'S DEPARTMENT.

APPLICATIONS are invited for the POST OF RESIDENT ENGINEER to supervise a contract for the construction of a trunk sewer, work on which is estimated to last approximately 18 months.

The appointment is temporary for the duration of the above contract, but, subject to satisfactory service and to approval being obtained to similar works now being prepared, may be extended for the duration of the proposed works. The salary offered is £1,300 per annum.

Applications, with details of qualifications, experience and age, and the names and addresses of two referees, are to be received by the City Engineer, 18 Fisher Street, Carlisle, not later than 23rd SEPTEMBER, 1961.

H. D. A. ROBERTSON,
Town Clerk.

WEST BRIDGFORD URBAN DISTRICT COUNCIL.

WORKS OF SEWERAGE AND SEWAGE DISPOSAL.

APPOINTMENT OF RESIDENT ENGINEER.

The Council invite APPLICATIONS for the POST OF RESIDENT ENGINEER for the construction by contract of works comprising the laying of glazed stoneware and spun-iron sewers of up to 30in. dia. (part of which may be in tunnel), with manholes; spun-iron rising mains of up to 24in. dia. (including a crossing under the River Trent), with chambers and hatchboxes; two pumping stations and storm water tanks involving reinforced concrete construction; and the installation of pumping and electrical machinery.

The period of the contract is 21 months, and the inclusive salary offered is at the rate of £1,550 p.a. plus allowance for the use on site of suitable private transport, in accordance with the National Joint Council Scheme.

The successful applicant will be required to work under the general direction of the Council's Consulting Engineers, A. H. S. WATERS AND PARTNERS, and must have had considerable experience of works of a similar scope and character.

Applications, endorsed "Resident Engineer," stating age, experience and qualifications, accompanied by the names of three persons to whom reference may be made, must be forwarded to the undersigned so as to reach him not later than the 15th SEPTEMBER, 1961.

A. G. MANSFIELD,
Clerk of the Council.

The Hall,
Bridgford Road,
West Bridgford,
Nottingham.

APPOINTMENTS VACANT

BOROUGH OF EALING.

LAND SURVEYING ASSISTANT, A.P.T. II (£855-£1,000 inclusive). 5-day week. Application Forms, with full particulars and conditions of service from Borough Surveyor, Town Hall, Ealing, W.5. Closing date: 23rd SEPTEMBER, 1961.

E. J. COPE-BROWN, Town Clerk.

EXPERIENCED BUILDING SURVEYOR REQUIRED (professional qualifications not essential) in City Chartered Surveyor's office. — Write, stating age, experience, and salary required, to Box V.4679, "The Contract Journal".

SITE AGENT REQUIRED immediately for completion of sewage works contract at Aldershot, Hants. Approx. 12 months' work. — Applications, stating experience, and salary required, should be sent to RILEY AND WHISHAW, LTD., Haslemere, Surrey.

SENIOR SURVEYOR, Progressive national building contractors have vacancy in their Midlands office for fully experienced Surveyor able to work on own initiative for large building contracts, valuations and final accounts, sub-contractors, etc. Previous proved record with a similar firm essential. The position will carry generous terms and conditions. All applications will be treated in confidence. — Write to Box V.4676, "The Contract Journal".

SITE ENGINEERS, with some experience, REQUIRED immediately for civil engineering contracts in East Anglia. Permanent position with superannuation scheme available for suitable applicants. — Details and salary required to DEREK CROUCH (CONTRACTORS), LTD., Eye, Peterborough.

AGENTS

REQUIRED by HUMPHREYS, LTD., for civil engineering contracts. Previous experience in control of contracts essential, preferably in connection with sewerage, bridge or harbour works. — Apply to:

Personnel Department,
HUMPHREYS, LTD.,
199 Knightsbridge, S.W.7.

WELFARE AND LABOUR OFFICER. Applications are invited from men with a good education and possessing a pleasing personality, and trained, with national building and construction experience. Age range 26-36 years. Experienced in the recruitment of operatives for contracts, and dealing with their transfer between contracts, records and wages work, and generally to assist the Personnel Manager. This is a permanent position, with prospects for the successful applicant. — WILSON LOVATT AND SONS, LTD., Clarence Street, Wolverhampton.

SENIOR AND JUNIOR SITE ENGINEERS REQUIRED for building civil engineering contracts in London, Glasgow and the South of England. Must be experienced in the use of surveying instruments and controlling engineering staff and construction. — Applications, giving details of age, experience, and salary required, to the Chief Structural Engineer, TERSONS, LTD., Dollis Park, London, N.3.

SENIOR BUILDING ESTIMATOR. Permanent vacancy for fully trained estimator for progressive national building and civil engineering contractor operating throughout the Midlands area. Previous experience with similar contract, covering all types of building work up to about £1m. in value, and able to work on own initiative, and can view recent past successful results. Suitable terms and conditions will be offered the selected applicant. Strict confidence will be observed to all applications. — Write to Box V.4677, "The Contract Journal".

APPLICATIONS are invited from **ELECTRICAL ENGINEERS** for the supervision of major cable installation work in various parts of the country. Applicants must have wide experience in all types of HT distribution work, particularly the laying of cables underground, and be able to inspect and assess fully cable routes and subsoil conditions likely to be encountered. — Please reply, stating age, experience and qualifications, together with three references, and salary required, to EDWARD A. PITCHER AND PARTNERS, 58-60 Cannon Street, E.C.4.

MARTIN COWLEY, LTD.

REQUIRED a CIVIL ENGINEERING QUANTITY SURVEYOR at head office, to take responsibility for all measurements and final accounts. This is an excellent opportunity for an ambitious energetic surveyor aged between 30 and 40, who has experience in a similar capacity with a large contractor. Salary not less than £2,000 p.a. provided. — Apply, giving full details of experience, to:

The Managing Director,
MARTIN COWLEY, LTD.,
Clay Cross, Derbyshire.

PLANT HIRE MANAGER. Generous salary and attractive conditions offered to a man under 40. Able to control and expand large plant hire business operating in the North East of England. Applicant must have wide experience in this field, coupled with mechanical knowledge and ability to price and supervise small excavation sub-contracts. — Full particulars, including present position and salary, in confidence, to the General Manager, F. GIBSON AND CO. (NEWCASTLE), LTD., Haddricks Mill Road, South Gosforth, Newcastle upon Tyne, 3.

SITE ENGINEER. Experienced Site Engineer REQUIRED for large sewerage contract in East Anglia. The position offers promotion to Contract Agent on future contracts. Age 22-35 years. — Write in confidence to the Personnel Officer, CUBITT AND GOTTIS, LTD., Building and Civil Engineering Contractors, Westerfield, Ipswich, Suffolk, giving personal details, particulars of previous experience, and salary expected.

EXPERIENCED BUILDERS' SURVEYOR REQUIRED for expanding firm in Stockport. Must have expert knowledge of bonus and costing on houses and multi-storey flats, and be able to keep records. Duties will include preparation of interim certificates, ordering materials, and settlement of final accounts under supervision. A vehicle will be supplied, and the successful applicant will be invited to join a pension scheme after six months' probationary period. — Write, giving details of age, experience, and salary required, to Box V.4755, "The Contract Journal".

TAYLOR WOODROW (OVERSEAS), LTD. REQUIRE PRODUCTION FOREMEN for civil engineering contracts, with extensive experience. Contract will be in Sierra Leone, with tours from 12 to 18 months. — Apply in writing to Personnel Manager, Taylor Woodrow (Overseas), Ltd., Western House, Western Avenue, London, W.5.

APPOINTMENTS VACANT

CLASSIFIED ADVERTISEMENT

RATES:

Classification	First Four Lines or Less	Each Additional Line
APPOINTMENTS VACANT	12/-	2/6
APPOINTMENTS WANTED	7/6	1/6
WORK REQUIRED, BUSINESS OPPORTUNITIES, BUSINESSES FOR SALE, DIVIDING FINANCES, PROFESSIONAL SERVICES, AGENCIES, HORTICULTURAL, PROPERTY SALE BY AUCTION, PLANT AND MISCELLANEOUS	14/-	3/-

BOX NO. 1/- EXTRA.

AGENT WANTED for concrete piled sea outfall in South Wales. The appointment will be a permanent one, and offers excellent prospects to a keen young Engineer with some previous experience of piling work. — Write in confidence to Box V.4612, "The Contract Journal".

CIVIL ENGINEERING. — Contractors' Staff Requirements. Applications are invited for the following permanent staff appointments: AGENTS—experienced in heavy civil engineering construction and preferably with experience in construction of large-diameter sewers in open-cut, heading and tunnel; ENGINEERS—for site duties on various contracts. Applicants should have experience of setting-out and measuring-up for contract records; ESTIMATORS at head office—for preparation of tenders for all types of civil engineering works. Previous estimating experience essential, site knowledge desirable; QUANTITY SURVEYORS at head office—for preparation of interim and final accounts. Applicants should have contracting experience in civil engineering. Knowledge of road surfacing additional advantage. Usual pension and life assurance scheme, and other appropriate benefits. Good salaries offered, according to competence and experience. — Replies, in strict confidence, personal to S. Averill Gothard, B.Sc., M.I.C.E., Director, WILLIAM F. REES, LTD., 54 Victoria Street, London, S.W.1.

ESTIMATOR REQUIRED for building and civil engineering contractors with head office situated in Surrey. Contracts £50,000 to £500,000. — Write, stating age, experience, and salary required, to Box 1066, c/o Murray and Phelan, Ltd., Columbia House, Aldwych, W.C.2.

M. J. GLEESON (CONTRACTORS), LTD.

REQUIRED SENIOR ENGINEER AND GENERAL FOREMAN for a large building contract in the London area. Please send full particulars to:

Personnel Officer,
M. J. GLEESON (CONTRACTORS), LTD.,
Haredone House, London Road, North Cheam, Surrey.

ASSISTANT CIVIL ENGINEERS REQUIRED in various parts of England and Wales. Good opportunities for experience on marine and industrial contracts. — Apply in writing to THE DEMOLITION AND CONSTRUCTION CO., LTD., 3 St. James's Square, S.W.1.

ARCHITECTURAL DRAUGHTSMAN. — Competent Architectural Draughtsman REQUIRED by construction company, North Liverpool area. Minimum four years' experience. Duties principally in connection with housing. Good salary, superannuation scheme and bonus. — Please apply, in writing, with full details, to Box No. 1131, Lee and Nightingale, Liverpool, 2.

SALES MANAGER WANTED. We can offer a really progressive position in the Southern Counties for an energetic person who has the drive and determination to produce good results. Naturally, all applications will be treated in the strictest confidence. — GREENHAM EQUIPMENTS, LTD., Clayton Road, Ruislip Road, Greenford, Middlesex.

DUNCAN LOGAN (CONTRACTORS), LTD. — SUB-AGENTS AND ASSISTANT CIVIL ENGINEERS REQUIRED for contract sites in the Edinburgh and Glasgow areas. Permanent and progressive posts. Applications (in confidence), stating age, full details of experience and qualifications, etc., to Duncan Logan (Contractors), Ltd., Great North Road, Muir of Ord, Ross-shire.

JUNIOR ENGINEERS, age about 25, REQUIRED by well-known and rapidly expanding company engaged in bridge, sewerage, tunnel, heavy foundation and such works. Excellent experience offered. Good salary and pension scheme. Details of experience and qualifications required. — Write to Box V.4694, "The Contract Journal".

WELL-KNOWN civil engineering contractor REQUIRES SENIOR ENGINEERS, over 25 years, for appointments in the Midlands and Home Counties. Applicants must have good general duties experience, and able to take charge. The positions offer excellent opportunities and will become permanent. First-class salaries, with pension scheme. Details of experience and qualifications should accompany applications. Write Box V.4695, "The Contract Journal".

BUYER WANTED by medium-sized building and civil engineering contractors with head office in Surrey. Must be fully conversant with bills of quantities and able to take off quantities from drawings. — Write, stating age, experience, and salary required, to Box 1067, c/o Murray and Phelan, Ltd., Columbia House, Aldwych, W.C.2.

HAVE YOU EARTHMOVING EXPERIENCE? Here are looking for a REPRESENTATIVE to sell Sherman trenchers in Derbys, Notts, and Lincs. Remuneration by salary and commission, covering car and expenses. — Please write, in confidence, to Sales Manager, WILLIAM G. SEARCH, LTD., Whitehall Road, Leeds, 12.

AREA AGENT/SENIOR AGENT, aged 45, SEEKS SIMILAR POST. Craft and University trained. Fully experienced in all branches of building and civil engineering industry. Available immediately. — Write Box W.4730, "The Contract Journal".

ASSISTANT to Plant Manager REQUIRED. Excellent opportunity for young man with some experience to join expanding company. Non-contributory pension scheme available. — Full details, in writing only, to the Secretary, BOWYER PLANT HIRE AND TRANSPORT, LTD., Guildhall Buildings, Navigation Street, Birmingham, 2.

APPOINTMENTS VACANT

MALGAMATED ASPHALTE COMPANIES, LTD. REQUIRE an ESTIMATOR in the roads department at Birmingham. Applicants must be fully experienced in the preparation of estimates for all types of surfacing contracts involving hot rolled asphalt, bitumen and tarmacadam carpets, together with other ancillary works such as drainage, kerbing, etc. This is an excellent opportunity for the right man who has drive and ambition. — Reply in confidence, stating age, previous experience, to the Area Manager, Moor Lane, Witton, Birmingham, 6.

ADDITIONAL CONTRACT SUPERVISOR REQUIRED by expanding company for work in the Midlands area. Experience in control of machine, and handling gangs, including H.R.A., and macadam, essential. — Write Box V.4723, "The Contract Journal".

SURFACING SUPERVISOR REQUIRED for work in Midlands. Must be capable of measuring, ordering materials and controlling hand and machine gangs. Car provided. — ROADS RECONSTRUCTION (CONTRACTING), LTD., Midland Area, 106 Gold Street, Wellington, Northants.

THE MITCHELL CONSTRUCTION CO., LTD.

REQUIRED AGENT for large hospital contract in East Midlands. Must be experienced, possess drive and initiative, and have experience in company's bonus and pension schemes. First-class salary offered. — Apply, in writing, with details of experience, to:

Contracts Manager (Building),
THE MITCHELL CONSTRUCTION CO., LTD.,
Wharf Works, Peterborough.

LETTS BROS. Surveyors, 340 Richmond Road, East Twickenham, Middlesex, REQUIRE ASSISTANT ENGINEER for design, supervision, administration of engineering works on housing developments. Applicants should have reasonable experience and interest in Civil or Municipal Engineers. Knowledge of town planning an advantage. Flat available. Salary according to experience and suitability.

SENIOR ENGINEER/AGENT REQUIRED to take charge of small- and medium-sized contracts in Midlands area. Wide experience in the field, and experience of handling several contracts collectively essential. Excellent opportunity for fully trained and qualified engineer for advancement to position of maximum responsibility in a small, expanding company. Written replies, stating age, qualifications, experience, salary required, and when free, to Box V.4731, "The Contract Journal".

SCHEDULER REQUIRED in busy taking-off department. Previous experience necessary. Suit older General Foreman or Clerk of Works seeking static employment. — Please send full details, and salary required, to Personnel Officer, M. J. GLEESON (CONTRACTORS), LTD., Haredone House, London Road, North Cheam, Surrey.

LEADING London transportation company REQUIRE a YOUNG EXECUTIVE to organise and expand the activities of its mobile crane and forklift truck hire department. Applicants, who should be between 30 and 40 years of age, should be fully conversant with all aspects of this field of plant hire. Write, giving full details of age, experience and salary required, etc., to Box V.4750, "The Contract Journal".

CONSTRUCTORS JOHN BROWN, LTD., Gunners Wood Road (South), Stevenage, REQUIRE FOREMAN PLANT FITTER. Must be fully conversant with all types of civil engineering equipment. Proposals to permanent staff after probationary period. Telephone Depot Manager: Stevenage 2980, or call at the above address.

BUILDERS' ASSISTANT MANAGER REQUIRED by mid-Shropshire firm employing approx. 50 men. Must have thorough knowledge of building trade, and capable of ordering materials, estimating, accounts, etc. Good prospects for right man. State salary required, and if available promptly. — Write Box V.4737, "The Contract Journal".

ASSISTANT ESTIMATOR REQUIRED for progressive post with expanding company. With general civil engineering experience, and preferably with keen interest in marine work. Able to work on own initiative. All applications will be treated in confidence. Please write giving details of experience, and salary required, to G. TATE AND SON, LTD., Finwell House, 26 Finsbury Square, London, E.C.2.

QUANTITY SURVEYOR—ESSEX

This appointment is on the site of one of the largest projects under construction in the United Kingdom and will be of particular interest to a young Quantity Surveyor (25-29 preferably) who wishes to broaden his experience by dealing with really big civil engineering and building works. Candidates must have a good general background of surveying duties on site. There are excellent prospects for a progressive career with the Costain Group, the continued expansion of which frequently creates more senior appointments. Please apply initially to:

Personnel Manager,
RICHARD COSTAIN, LTD.,
111 Westminster Bridge Road, London, S.E.1.

CIVIL ENGINEER, with degree or A.M.I.C.E., age 28-32, REQUIRED in head office of well-established firm of geotechnical specialists. Permanent and progressive post for the right man. Must have broad civil engineering background, including site experience with contractors. Varied and unique experience offered in surveys for, and preparation of, remedial schemes, tendering, planning and organisation of contracts. Excellent prospects for man with ability and drive. Pension scheme. — Apply in confidence, stating age, education, experience, and present salary, to T. WHITLEY MORAN, M.I.C.E., 5 Old Hall Street, Liverpool, 3.

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APPOINTMENTS VACANT

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SENIOR QUANTITY SURVEYOR REQUIRED to take charge of small department of civil engineering and reinforced concrete contractors. Must have necessary initiative for preparation of interim and final certificates, accounts, claims, etc. Only those with experience and administrative ability should apply. First-class salary plus pension scheme, offered, together with other benefits.—Write, stating age, qualifications, experience, salary required and when available, to **TILEMAN AND CO., LTD.**, Romney House, Tuford Street, London, S.W.1.

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For Advertisements received too late for classification see page 1045

APPOINTMENTS WANTED

ENGINEER, experienced in motorways, sewerage schemes and disposal works, **SEEKS EMPLOYMENT** as **AGENT, SUB-AGENT or ENGINEER**. Write Box W.4749, "The Contract Journal."

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APPOINTMENTS WANTED

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To be sold by AUCTION by **MESSRS. H. AND R. L. COBB** on THURSDAY, 21st SEPTEMBER, 1961, on the PREMISES, at 11 a.m. Viewing, 18th and 19th September and on day of Sale. Catalogues may be obtained from the Auctioneers as above, at Castle Chambers, Rochester (Chatham 43036); 7 Ashford Road, Maidstone (Maidstone 3428); and 138 High Street, Sevenoaks (Sevenoaks 54674).

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have received instructions from W. R. Oliver, Esq., C.A., and J. H. Ryan, Esq., Tulloch Street, Dingwall, and Messrs. D. Logan (Plant), Ltd., Great North Road, Muir-of-Ord, to sell by AUCTION, as above.

On view day prior to Sale. Catalogues from Auctioneers. Hamilton, August, 1961.

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Further particulars may be obtained on request, in writing, to the County Surveyor, County Hall, Truro, to whom Tenders must be sent on or before WEDNESDAY, 20th September, 1961.

The County Council do not bind themselves to accept the highest or any Tender.

E. T. VERGER, Clerk to the County Council.
County Hall, Truro, 24th August, 1961.

BOROUGH OF DARTFORD.**BROOKLANDS WORKS.**

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Offers to be sent to the TOWN CLERK, Council Offices, Dartford, Kent, in plain sealed envelopes, endorsed "Brooklands Works," not later than Noon on the 11th SEPTEMBER, 1961.

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W. THOMPSON, Director of Education.

Education Offices, 15 John Street, Sunderland, Co. Durham.

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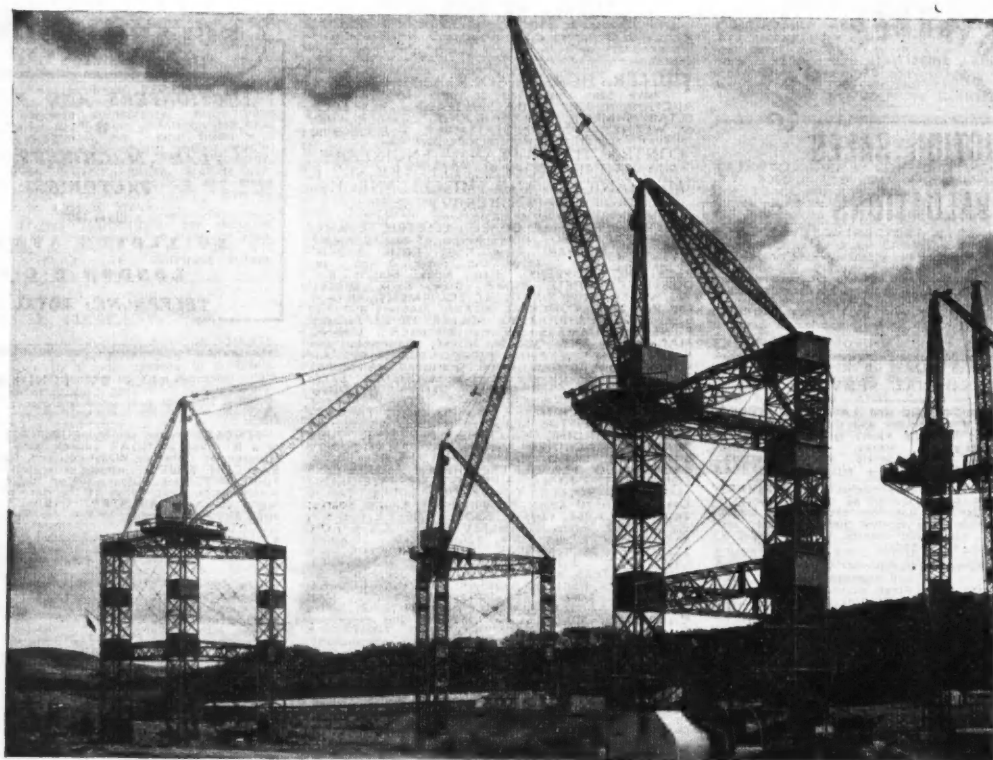
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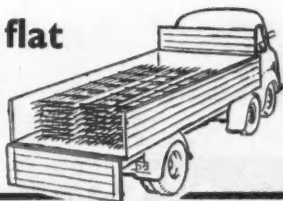
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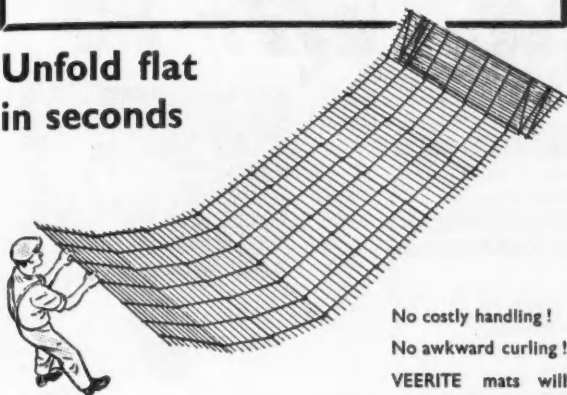
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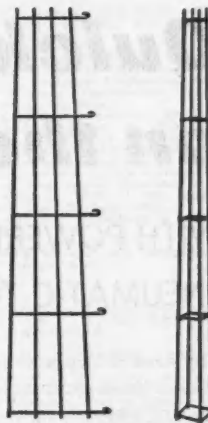
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Tenders must be delivered to me at the address mentioned below not later than Noon on MONDAY, 25th September, 1961, and no Tender will be received and considered unless it is enclosed in a plain sealed envelope, endorsed "Auriol and Shadbolt Park Sewers."

This envelope must not bear any mark or name indicating the sender.

The Corporation do not bind themselves to accept the lowest or any Tender.

EDWARD MOORE,
Town Clerk.

Town Hall,
The Parade,
Epsom, Surrey,
August, 1961.

JUNIOR CIVIL ENGINEER REQUIRED by piling and construction limited company in the Costain Group. This post, based on Croydon, will greatly appeal to a young man who is looking for responsibility and the chance to travel throughout the U.K. Current driving licence required. He will be in charge of the setting out and supervision of contracts and will meet architects and clients during his work. Day release for further academic studies can be arranged, and the opportunity to learn the design side of piling construction will also be given. There are excellent prospects for a progressive career with the company. Candidates, aged 20-25, should preferably possess O.N.C. and must have had good setting out experience. Please apply in the first place to Personnel Manager, RICHARD COSTAIN, LTD., 111 Westminster Bridge Road, London, S.E.1. Tel.: WATERloo 4977.

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Documents from the Borough Engineer, Crossley Street, Halifax, on receipt of Two Pounds (cheques payable to Halifax Corporation), returnable on receipt of a bona-fide Tender delivered to the undersigned on or before 18th SEPTEMBER, 1961.

RICHARD de Z. HALL,
Town Clerk.

Town Hall,
Halifax.

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CHESHIRE COUNTY COUNCIL. EAST OF BIRMINGHAM-BIRKENHEAD TRUNK ROAD, A.41 — IMPROVEMENT AT CHOWLEY BRIDGE.

TENDERS are invited for WIDENING the ABOVE ROAD for a length of approx. 700 lin. yd. The works include Fencing, Drainage, Earthworks, Kerbing, Carriageway and Footway Construction, and the Lowering of a section of the Road.

Form of Tender, Conditions of Contract, Specification, Bill of Quantities and Plans may be obtained from the undersigned on payment of Five Guineas by crossed cheque, which will be returned in the case of a bona-fide Tender not subsequently withdrawn, submitted to the Clerk of the County Council, County Hall, Chester, in a plain sealed envelope, endorsed "Improvement at Chowley Bridge," not later than Noon on MONDAY, 2nd October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

C. G. DAY,
County Surveyor and Bridgemaster.

County Surveyor's Department,
Backford Hall,
Near Chester,
28th August, 1961.

BOROUGH OF WANSTEAD AND WOODFORD.

RECONSTRUCTION OF REDBRIDGE LANE WEST.

TENDERS are invited for the ABOVE WORK, which comprises the Provision and Laying of approx. 9,000 sq. yd. of Bitumen Macadam Wearing Course, together with Bituminous Concrete Regulating Course, Kerbing, Drainage, Footway Construction and appurtenant works. Documents from the Borough Engineer and Surveyor, Municipal Offices, Woodford, E.18, on payment of Two Pounds deposit. Tenders to be returned by 12th SEPTEMBER, 1961.

A. MCCARLIE FINDLAY,
Town Clerk.

MILLARS' MACHINERY CO., LTD.—Firm engaged in sub-contract work in the civil engineering field REQUIRE ENGINEER with commercial background. Experience in soil handling or pumping would be an advantage. Age limits preferred 25/40.—Write, giving full details, to Personnel Manager, Millars' Machinery Co., Ltd., Thorley Works, Bishop's Stortford, Herts.

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THE CONTRACTOR
Established 1879

No. 4,288 Vol. CLXXXII August 31, 1961

Editor:
LAWRENCE MCCARTHY

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Advertisements

Advertisement rates may be obtained on application to R. Binfield, Advertisement Manager.

THE PUBLIC IMAGE

IT is unfortunate that a great deal of mystery and suspicion surrounds the subject of public relations. It has been called the "unknown industry". Not long ago, to the great and understandable consternation of the Institute of Public Relations, it was labelled "organised lying" and a "degrading profession" when the whole subject came under a sustained and bitter attack from commentators in the House of Commons, and on television and radio.

Yet public relations is no mystery. And it is no more open to abuse than any other means of communication. Public relations is in fact largely a matter of common sense. Good management instinctively practises it, sometimes perhaps without being conscious of it. Prompt and polite conduct of correspondence on presentable notepaper, courteous telephone procedure, tidy reception arrangements, all these are part and parcel of public relations. But today a more conscious and positive approach is necessary. Public relations has become a powerful force throughout the world. Good deeds must not simply be done, but must be seen to be done. The voice of industry must be heard.

As Mr. Peter Trench, director of the N.F.B.T.E., said recently, the public image of the construction industry is not a happy one. The industry as a whole is not public relations conscious and one reason may be that the benefits of public relations, which are never capable of precise measurement, are probably less related to profits in the construction industry than in, say, consumer goods industries. In the construction industry the winning of a contract still to a large extent depends on sharpening one's pencil rather than writing a Press notice. A further difficulty is that in the construction industry some outside ill-formed criticism may go unanswered because a reply would mean biting one of the hands that feed it.

The fact remains, however, that in the construction industry there is little sustained effort to bring achievements and other information to the notice of the public, whether the general public or a particular "public." The respective employers' associations have striven to give a lead. The N.F.B.T.E. have published some excellent pamphlets for the use of their members and maintain a steady stream of general news about the building industry to the Press and radio. The Federation of Civil Engineering Contractors have published a first-rate illustrated history of their industry and offer a public relations service to their members, of which unfortunately little use appears to be made.

Is it that in the case of an individual news story the contractor cannot be bothered or does not know how? If it is the latter the public relations section of his employers' association will for one no doubt be glad to assist. If the former, the director of the N.F.B.T.E. has said "the public relations of a firm affect the public relations of the industry" and the construction industry cannot afford not to have good public relations.

Two Tunnels

WHEN the Government announced their recent economic measures it was feared in some quarters that the proposed Tyne Tunnel would be shelved temporarily. Fortunately, this has not proved to be the case. A tender for the construction of the main bore of the tunnel has now been accepted and work is to start in a few weeks.

The construction of the project will provide a welcome addition to the work opportunities in a comparatively high unemployment area and when the tunnel is complete it will materially help the social and industrial integration of the region as a whole. It will assist in opening up south-east Northumberland where two new towns are proposed and will help towards the future prosperity of the region.

The cost of the tunnel is to be met by tolls. This will not appeal to road users who already pay enough one way or another for the privilege of using the country's roads but when they come to it they will probably pay up quite happily.

Another tunnel in the news in recent days has been the much talked of Channel project. It has been announced that the French Government has decided to hold exploratory talks with Britain on a Channel tunnel or bridge. Neither Government has shown any real enthusiasm for such a link or have come down in favour of either a tunnel or a bridge, but this country's application to join the Common Market seems to have sparked off some interest by the French. Whether this Channel link will see the light of day in the event of Britain not joining the Market is problematical.

£5½M. TENDER ACCEPTED FOR TYNE TUNNEL

A Description of the Project

THE £5,403,203 tender of Edmund Nuttall, Sons and Co. (London), Ltd., London, S.W.1, lowest of seven received, has been accepted by the County Councils of Durham and Northumberland for the construction of the main bore of a vehicular tunnel under the River Tyne between Jarrow and Howdon.

Approach roads included in the scheme will extend between the coast road, A.1058, on the Northumberland side and the Gateshead-Sunderland Road, A.184, on the Durham side, a total distance of approximately five miles. They will have twin carriageways, each 24ft. wide, with cyclist tracks and footpaths.

Tunnel approaches will intersect a number of existing east-west routes, including the Wallsend-Tynemouth Road, A.695, the Willington Quay-North Shields Road, A.187, and the Gateshead-South Shields Road, A.1055. There will also be a link with the ring road planned in connection with the redevelopment of Jarrow.

The tunnel will have a profound effect upon the pattern of road communications over a wide area, many new major road links in the two counties having been planned to connect with the crossing.

Main Tunnel

The main tunnel, which will be devoted exclusively to motor traffic, will be about 5,500ft. long from portal to portal, and will cross under the river a short distance downstream from the two small tunnels for cyclists and pedestrians which were completed in 1951. It will be the largest road tunnel to be constructed in Britain since the Mersey Tunnel was opened in 1934.

At its lowest point under the river the roadway will be 116ft. below high water level, and the crown of the tunnel will be 45ft. to 50ft. below the bed of the river. The greater part of the length of the tunnel will be occupied by its two inclines, both on a gradient of 1 : 20, but a short section of some 200yd. underneath the river will be practically level.

Circular in cross-section, the tunnel will be 31ft. 3in. inside the flanges of the cast-iron lining. Its carriageway will be 24ft. wide, accommodating one line of traffic travelling in each direction. The 12ft. width for each traffic lane is an improvement upon the standards of existing road

tunnels and should considerably promote the comfort and safety of drivers and make for the smooth flow of vehicles even under the heaviest traffic conditions.

The tunnel will be driven through varied strata, partly in clays and sands deposited during the Ice Age and partly in the underlying rocks of the Coal Measures. Where the ground is unstable and heavily charged with water the tunnel will be driven under compressed air. The construction of this section of the main tunnel will be preceded by a pilot tunnel, which will not only serve as a means of close exploration of the ground ahead of the main shield, but will also allow the more difficult strata to be treated, if necessary, by the injection of stabilising substances—a modern development of tunnelling technique that has proved of great value in the reduction of the difficulties and hazards attendant on the construction of tunnels in such conditions.

Invaluable information about the problems to be overcome was obtained during the driving of the tunnels for cyclists and pedestrians. Apart from providing a useful facility for local residents, the small tunnels served as a pilot work for the major tunnel. Exceptional difficulties were encountered in their construction owing to the presence of a buried channel in the river bed. However, this special difficulty will be avoided in the main tunnel, the under-river section of which is to be driven in the underlying bedrock.

Driving Shields

Shields will be used for driving the greater portion of the tunnel. These will be of somewhat different patterns, designed to suit the strata to be dealt with in the various sections, but the working principle will be the same in each case, namely, a massive protective structure of girders and steel plate which is moved forward by means of powerful hydraulic rams as the miners excavate the face and as each ring of the cast-iron lining is built up behind the shield.

Upon the completion of the driving of the tunnel the roadway will be installed. This will be supported on a reinforced concrete structure, the space underneath forming a duct for the supply of fresh air necessary to keep the atmosphere in the tunnel clear of fumes and smoke from the traffic.

Some 750,000 cu. ft. of fresh air will be delivered into the tunnel each minute by powerful blowing fans to be installed at the two ventilation stations, one on each side of the river, and a like amount of vitiated air will be drawn up the exhaust shafts by other fans.

The nerve centre of the tunnel will be a control room, with instrument panels recording, among other things, the level of purity of the air in the tunnel, the quality of visibility, the quantity of air being circulated, the number of vehicles passing through the tunnel at any given time, and various information relating to the working of the fans and other machinery which will be operated by remote control from this room. Alarm bells and signal lights will give warning so that reserve units may be switched in should any item of plant break down. The control room will also be the centre of the communication system, and all messages affecting the operation of the tunnel, or relating to emergencies, will come to the controller's desk.

In order to combat fires, stations furnished with alarm signals, extinguishers, hydrants, etc., will be spaced at short intervals throughout the tunnel. The operation of an alarm at any station will automatically indicate its position to the controller, who will at once impose the appropriate traffic controls and send the necessary assistance to the scene of the trouble.

Toll Collection

The tolls which are to be paid by users of the tunnel will be collected at points provided for this purpose near the entrances. At these "toll plazas" the road will be widened to a broad, paved expanse in order to make room for the requisite number of toll entries to ensure that there shall be no waiting even at peak periods, and that traffic will at all times flow smoothly and without congestion.

It is estimated that the scheme will cost about £12½m. and construction is expected to take about five years. It is expected that the contractors will move on to the first working sites on both sides of the river during September and that the actual constructional work will commence very shortly after that.

Mott, Hay and Anderson, 9 Iddesleigh House, London, S.W.1, are the consulting engineers for the scheme.

A.63 ROAD IMPROVEMENTS

More Dual Carriageways

THE two-mile North Ferriby By-pass on the Liverpool-Leeds-Hull trunk road (A.63)—the principal trunk route serving the port of Hull—was opened to traffic last week.

Work will start shortly on the modernisation of a further length of this road between North Ferriby and Welton, a distance of just under two miles. Mr. Ernest Marples, Minister of Transport, has authorised the East Riding County Council to award the contract for this work to Martin Cowley, Ltd., whose tender was £156,947. This firm also built the North Ferriby By-pass, with which the new improvement will link.

A second carriageway, 24ft. wide, will be constructed on the north side of the existing two-lane carriageway and separated from it by a central reservation, to form a modern dual carriageway section of road. The subsoil underlying the new carriageway is extremely unstable, and it will be necessary to cut out the defective ground to an average depth of 4ft. and replace it with sound material.

This scheme, together with a similar improvement now being carried out to the east of North Ferriby, the North

Ferriby By-pass and the existing dual carriageways at Hessele, will complete a continuous stretch of more than six miles of dual carriageway road extending westwards from the Hull City boundary.

The scheme has been prepared for the Ministry of Transport by the East Riding County Council (county surveyor—Mr. W. J. N. Bryce, B.Sc., M.I.C.E., M.I.Mun.E.).

WYE ROAD IMPROVEMENTS

Tenders will be invited this autumn for the third stage of the £2½m. Wye Valley Road Improvement Scheme. The contract comprises the construction of a dual carriageway road between the Monmouthshire boundary and Dixton Cross, to follow the general line of the existing Ross-Monmouth trunk road (A.40).

Plans for this stage of the scheme have been drawn up by Monmouthshire County Council (Mr. D. W. G. Barren, county surveyor), who are acting as agents for the Ministry of Transport. Work is expected to commence before the end of the year.

INCREASED PRODUCTION OF BRICKS AND CEMENT

According to figures collected by the Ministry of Works, 600m. bricks were produced in Great Britain in July. This was 4 per cent. more than in the same month last year. During the first seven months of this year, 3 per cent. more bricks were produced than in the same period last year.

Stocks were higher at the end of July than they were a year ago in spite of deliveries exceeding production by some 10m. bricks in July this year.

It is still necessary for orders to be registered with the brickmakers well in advance of the date when delivery is required if delays are to be avoided.

Cement

During the four weeks ended July 31, 1,157,000 tons of cement were produced. Production up to the end of July this year was 7 per cent. higher than in the same period last year and deliveries to the home market were 11 per cent. higher. Imports continued to rise and in July were more than twice as high as in May while it is reported that deliveries for export continued to drop.

Accommodation for nursing staff is the subject of Hospital Building Bulletin No. 2, prepared by the Ministry of Health and published by H.M.S.O., price 3s. net.

PRECAST PRESTRESSED DECK UNITS ON 3,220FT. TEES QUAY

**Design Allows Free Movement
of 200-ton Loaders**



General view of progress

AN open-type quay is now being constructed off reclaimed land on the south bank of the Tees in a basin between Grangetown and Redcar. It is being built along the western side of the basin at right angles to the Tees and will be 3,220ft. long and 90ft. wide, supported on concrete cylinders with a roundhead at the river end.

The work is being undertaken for the Tees Conservancy Commission to provide additional deep water berthing facilities, in the Tees, which was once a narrow, tortuous river.

Since 1852, when the Commission superseded the Tees Navigation Company, the

river has been widened and deepened, nearly four miles of breakwaters and 25 miles of training walls have been constructed and considerable areas of land have been reclaimed. The depth of water at the river entrance is now 24ft. at low water of spring tides—as late as 1863 it was only 3½ft.—and model studies are being made to establish the optimum limit of further channel deepening and reclamation work.

In 1946 the Tees Commissioners obtained Parliamentary powers to allow them to undertake the construction and management of two tanker berths and five general cargo berths. The two tanker berths were built on the river frontage close to the

present work and the second was completed in 1950.

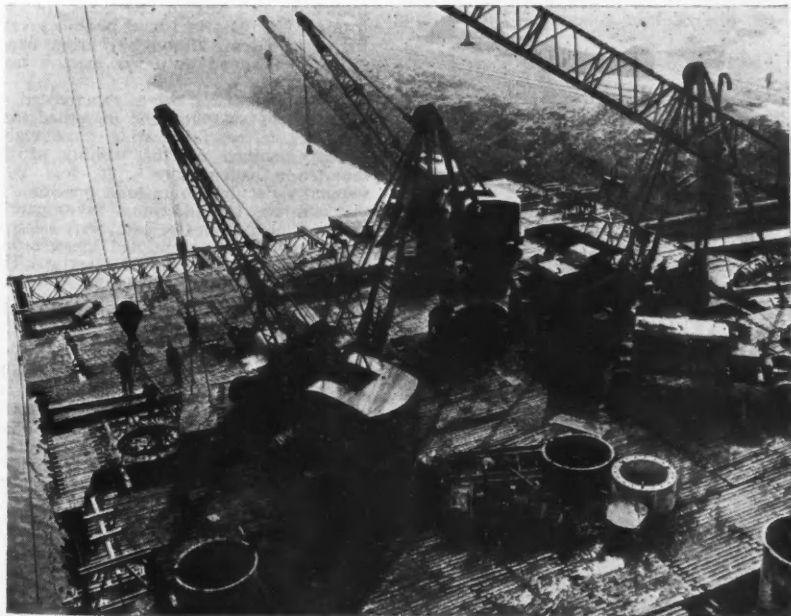
In 1954 Sir William Halcrow and Partners were appointed to design five tidal berths having an initial depth of 32ft. and an ultimate depth of 37ft. alongside at low water spring tides. These berths are now under construction.

Preliminary Work

A site investigation contract was let to Le Grande Sutcliffe and Gell, Ltd., to undertake boring and sampling of the ground and to carry out pumping tests to establish the feasibility of constructing the new berths in the dry. In the course of the investigation two facts emerged which led to the decision to construct the berths by wet methods. Firstly it was found that the slag stone embankments which enclosed the site were extremely porous and would be costly to seal and secondly it was found that suitable foundation material for gravity-type structures did not generally exist above level 30 works datum.

Various alternative designs were prepared for a quay structure 60ft. high, measured from cope to bed level and very quickly it became obvious that an open-type structure was the most economic. This conclusion was further confirmed by local experience of the free standing nature of dredged faces in the lower marl.

Detailed designs were prepared in 1956, but because of the Government's financial policy it was decided to defer the construction of the berths until more suitable conditions prevailed. Reclamation of the area between the quay and the Tees Dock Road however proceeded by pumping sand dredged from the river in the course of maintenance operations, into bunds. Dredging of the first portion of the dock basin also proceeded using the Commission's own bucket dredger. This work provided useful additional soil information and after the removal of the overlying sand by the Westminster Dredging Co., permitted a favourable contract to be let to the Britannia Dredging Co. The latter executed the balance of the dredging by means of a large cutter suction dredger. In all, 2,100,000 cu. yd. of sand, boulder clay and disturbed keuper marl were



The temporary working platform sub-structure construction

dredged and pumped ashore for a reclamation works.

Instructions to invite tenders were given late in 1958 and during the preparation of tender documents it was realised that the original design of the deck structure would no longer necessarily be the most economic. The original design had included large precast reinforced concrete deck units weighing up to 80 tons each, but in the meantime the rapid development of prestressed concrete suggested that further economies might be possible with this type of construction.

A. J. and J. D. Harris were invited to prepare an alternative design for a prestressed concrete deck structure with individual elements weighing not more than 15 tons each. Both designs were included in the tender document and the successful tenderer, the Demolition and Construction Co., Ltd., priced the prestressed concrete scheme cheaper than the alternative in reinforced concrete. Instructions to commence work were given in August 1959.

Structure

To facilitate the transport by road of heavy loads to and from the ships the deck has been designed to permit the free movement of 200-ton low loaders and 64-ton capacity mobile cranes anywhere on the quay.

The substructure consists of 330 concrete cylinders arranged in bents of three. These bents are at 30ft. centres and the three cylinders in each bent are 30ft. and 38ft. apart respectively. The length of the cylinders varies from 43ft. to 67ft. depending on the nature and level of the ground beneath the quay.

The cylinders are composed of precast concrete hollow sections 6ft. long with an external diameter of 6ft. 3in. and an internal diameter of 4ft. 9in. These units are placed in position and stressed together with 1in. diameter Macalloy high tensile steel bars. The front and centre cylinders are stressed with six bars and the rear cylinders with 18 bars. The cylinders are sealed at the toe with colloidal concrete and then filled with layers of weak concrete and sand. The rear and centre cylinders are finished with an in-situ reinforced concrete capping. The front cylinders are topped with large concrete fender blocks. The Macalloy bars from these cylinders are extended up through the fender blocks by the use of couplers. Stressing is then carried out from the tops of the fender blocks.

The substructure of the roundhead is similarly constructed but in this case the cylinders are in bents of four.

The superstructure consists of twin main transverse prestressed concrete I beams

spanning between the cylinders in each bent and supporting precast prestressed deck units. Each of the transverse beams is cast in two sections 30ft. and 38ft. long, 6ft. deep and 1ft. 8in. wide. These sections weigh 12 tons and 15 tons respectively. When in position the two sections are stressed together to provide continuity over the central support and to the fender block to obtain portal frame action under berthing loads. The space between the beam units over the central support and between the end of the beam and the fender block are filled with in-situ concrete.

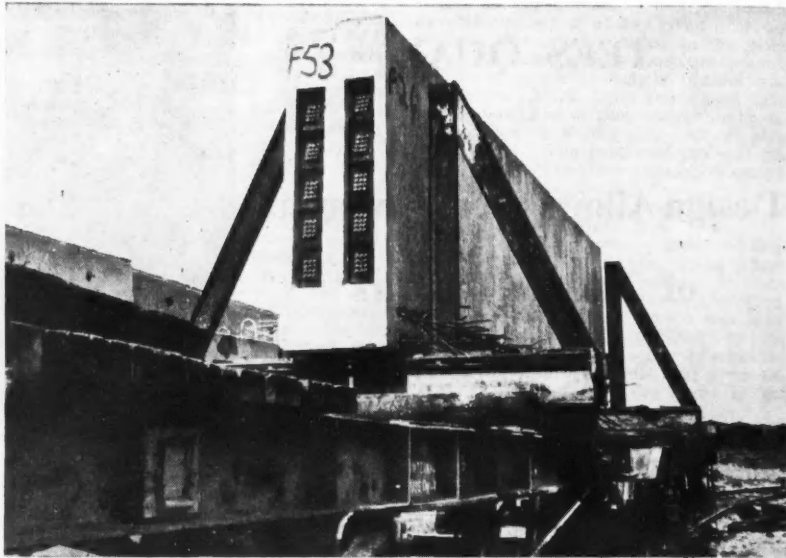
The decking units weigh 12 tons each and their maximum section is 4ft. 6in. x 1ft. 5in. They are carried on the transverse

face is also finished with in-situ reinforced concrete 9in. thick. Expansion joints are provided at 600ft. intervals.

A service gallery 7ft. 1 1/2in. by 4ft. 1 1/2in. face is also finished with in situ reinforced concrete is formed at the rear of the quay by utilising the longitudinal beam as one wall and by constructing the remainder of in-situ concrete. Transverse ducts and service pits are provided in the in-situ filling of the quay.

The superstructure of the roundhead is of similar construction to the main quay, but is reinforced by additional lateral beams.

Fenders and mooring attachments are provided at each fender block, the former



Precast main beam loaded for transport from the casting yard to the quay

beams and are stressed together transversely. Longitudinal continuity of the deck is achieved by dovetailing of the deck units over the transverse beams.

In addition longitudinal beams span between the front cylinders and between the rear cylinders. The longitudinal beams between the front cylinders are tied into the deck structure by the transverse prestressing cables in the deck units which also pass through these beams.

The deck of the quay is completed by a 6in. layer of in-situ reinforced concrete on 1ft. 6in. of lean concrete. The berthing

consisting either of Greenheart timber or 15in. diameter Goodyear hollow rubber fenders.

Testing of Foundation Material

The pre-contract site investigation had indicated that the soil beneath the quay consisted of massive rock like Keuper marl overlain successively by approximately 50ft. disturbed marl, 10ft. boulder clay and between 5ft. and 20ft. of fine sand. The boulder clay and the disturbed marl did not differ greatly except for the inclusion of foreign particles in the former. The disturbed marl became greatly harder with depth although recurrent bands of soft continued until the massive marl was reached.

Great difficulties were experienced in satisfactorily sampling the disturbed marl and despite careful testing considerable doubt remained on the validity of the foundation calculations. It was consequently decided to include provision in the contract for additional investigation.

The Cementation Co., Ltd., were selected to undertake this additional investigation in conjunction with main contractors. The work included, boring, sampling and testing, in-situ plate bearing tests and a 1,000-ton test load applied to a completed cylinder.

The boring work confirmed the previous experience of sampling difficulties and wide variation in test results. The plate bearing tests which imposed loads up to 100 tons on 12in. diameter concrete filled tubes confirmed that the softer layers of the disturbed material would not support the design loads without differential settlements of an unacceptable order. The conclusion formed at this stage of the investigation was that no satisfactory foundation, for columns relying on end bearing alone, existed above the level of the marl rock which was generally 15ft. below contract founding level.

A cylinder, provided with longitudinal cables capable of exerting 1,000 tons axial



View of the temporary platform for sub-structure construction showing the grab in operation

RAILWAY TO CASTING YARD

12 TON DERRICK

BENTONITE PLANT

RICE SHOT

WATER LEVEL

WATER LEVEL

WATER LEVEL

CYLINDER A PLACING INMAGALLOY PRESTRESSING BARS

CYLINDER B EXCAVATION BY BENTONITE GRAB

CYLINDER C ASSEMBLY OF PRECAST CYLINDER UNITS

Typical cross-section showing
plant & temporary works

An Economist Comments . . .

PLANNING FOR GROWTH

SO much has been said and written about the Chancellor's "Little Budget" emergency measures that his references to "a new long term policy" have tended to be pushed into the background. In the same way, two important reports, both dealing with longer-term aspects have not, perhaps, received the consideration they deserve.

The reports are, first that of the Plowdon Committee on Public Expenditure; second the Fourth report of the Council on Prices, Productivity and Incomes. Each has an important bearing on contracting and it is appropriate to consider the two reports first since they must have been at the back of the Chancellor's mind when he was drafting his much awaited statement of July 25.

In essence both reports have a common theme. Both imply that the absence of proper co-ordination is a serious handicap to the country's economic development. Both emphasise the need for some sort of long-term planning. Both deprecate short-term, make-shift economic action.

According to the Plowdon Committee, the central problem is how to bring the growth of public expenditure under better control and how to contain it within such limits as the Government may think desirable. It is argued that the Government should undertake regular long-term surveys of expected public expenditure in relation to prospective resources; furthermore that the Government should make its spending decisions in the light of these surveys. Something of the sort is, of course, already done for defence and for the investment plans of local authorities and nationalised industries: and Mr. Lloyd announced in his Budget speech that he had instituted a study into the growth of public expenditure in relation to resources over the next five years.

The Council on Prices, Productivity and Incomes could find no simple means of raising productivity and keeping the growth of demand and of money incomes in line with it. But it considers that "an effective strategy can be developed by bringing pressure to bear in the same direction at a number of points." Thus it would have collected and collated the long-term investment plans of individual industries with the intention, not only of reducing duplication and eliminating bottle-necks, but of determining whether the total was likely to exceed or fall short of the resources expected to be available. Similarly, since the Council was concerned with the economy as a whole, the expected labour requirements of different industries would also be collated in an attempt to foresee where shortages and redundancies were likely to occur. Stemming from these central proposals, and subordinate to them, there would be more management training, more shift working, and more mass production in the capital goods industries. In short, the Council's main contention is that the country should have a long-term capital investment programme designed to increase productivity which would be maintained through temporary fluctuations in consumption; short-term restrictions on demand therefore would not tend to inhibit growth as they have done in the past.

Changed Atmosphere

As little as five years ago such proposals would have had little chance of serious consideration. But planning is not nearly the anathema it once was. More and more observers, not always noted for their radical views, are coming to acknowledge that something more orderly is required in place of recurring "stop and go" policies and short-term economy cam-

paigns. Contracting, probably as much as any industry, has suffered from the vacillations of post-war economic policy—or lack of it. Thus, the industry may have had a special place in the mind of the Plowdon Committee when it wrote the following passage:—

"There has been a tendency in the past to over-estimate the possibilities of useful short-term action in public investment, and to under-estimate the indirect losses caused by sudden changes. Experience shows that at least six to nine months (and often more) must elapse before short-term changes in either direction take full effect. In the two-year period from high to low, which seems to characterise post-war fluctuations in the economy, the effect of the action may well appear at the very moment when the economy is already on the turn. The remedy may, therefore, be worse than the disease."

Limitations and Advantages

It is, of course, easier to talk about long-term planning than to practise it. Ask any contractor who has just had a tender for a £2m. job accepted; or indeed any building owner who wants his factory block to conform to the up-to-date industrial requirements of 24 months hence. Such considerations may have influenced the Plowdon Group not to attempt a detailed blue-print. Being men of great experience they did not advocate a rigid five-year plan, to be followed slavishly. They favour five-year "forward looks"—firm for the first year; firm for the second or subject to major changes in the military and economic situations; provisional for the third year and tentative for the fourth and fifth years.

This suggestion, applied to public investment, would probably suit the contracting industry very well. The industry often faces difficulties over the planning of public authority programmes. For example, problems may arise because of the inadequate time available between the date of acceptance of a tender and the starting of work on the site. A stumbling block is the sanctity of the Treasury's financial year, and although there has been some improvement in recent years, notably for education projects, there is still room for greater improvement. The compilation of all departmental construction programmes on the lines advocated by the Plowdon Group might help considerably. The Treasury is probably quite prepared to go much of the way already; if so, it is up to the Government departments and local authorities concerned.

The Council's proposals are more difficult to implement. It is only common sense that the Government should plan its expenditure ahead; any large firm would do it as a matter of course. But it is altogether different to ask individual firms virtually to make public what they intend to do and to subject themselves to a central plan. And, surely one of the measures of successful enterprise is ready adaptability to take advantages of opportunities provided by changing circumstances? Planning in this context could lead to stagnation, the very opposite of what the Council seeks. It seems that any blue-print that might emerge must be in even broader terms than envisaged by the Plowdon Committee.

Mr. Lloyd Acts

The Chancellor has, of course, already taken steps to meet a number of these points—indeed, by instituting an inquiry into future Government expenditure it can be said that he forestalled the Plowdon Committee. He has also invited the T.U.C. and the employer's organisations to meet him to discuss the practical aspects of long-term planning of the country's economy. An outline scheme likely to be considered at such a meeting is the

establishment of one body to deal not only with industrial planning in its broadest sense but "wages and profits" policy as well. At present, at the highest level, we have (1) the Economic Planning Board, a small group of officials, businessmen and trade union representatives, presided over by the Permanent Secretary to the Treasury; (2) the National Production Advisory Council on Industry (N.P.A.C.I.) which meets quarterly under the chairmanship of the Chancellor and is attended by scores of representatives from all over the country. In addition there is the Council on Prices, Productivity and Incomes quoted above, which does not seem particularly anxious to remain in being. Some streamlining here is obviously needed and the Chancellor may have it in mind to do just that. But a central authority to examine wages and profits is a different proposition. I doubt whether the unions, or the employers' organisations, would take very kindly to a scheme that annexed any part of their direct responsibility for wage negotiations—although, here again, passions are less strong than they were once.

Pros and Cons for Contractors

On balance, contracting would probably gain in the longer term from more "forward looking." Contracting is a long-term exercise and the more forward looking building owners, official or private, become the better for the industry. To aim at too much precision would almost certainly result in failure: broad targets might help considerably.

But it is apparent that any advantages stemming from a more orderly economy are likely to require sacrifices. First it would seem essential that the main emphasis would require to be on full employment and continuous expansion rather than on price stability: this would have important implications for firm-price tendering. Second, it would mean that restraint on incomes would have to include profits and capital gains as well as wages and salaries. Third, it could require some selective controls, for example on investment: in practice this could mean at least a partial return to building licensing. Fourth, it could mean foregoing some of the industry's much-hallowed and jealously protected wage negotiating machinery. Contracting, along with other major industries, may one day have to decide upon the price it is prepared to pay for orderly expansion.

NEW CHOIR SCHOOL

Architectural Competition Planned

Mr. Henry Brooke, Minister of Housing and Local Government, has been considering at the request of the Dean and Chapter of St. Paul's Cathedral, how the differences of opinion between the London County Council, the City Corporation and the Royal Fine Art Commission on the design of the new choir school can be resolved and the Dean and Chapter advised on the best design for this building.

The design of a suitable building for this important site adjacent to the eastern apse of the Cathedral presents considerable difficulty.

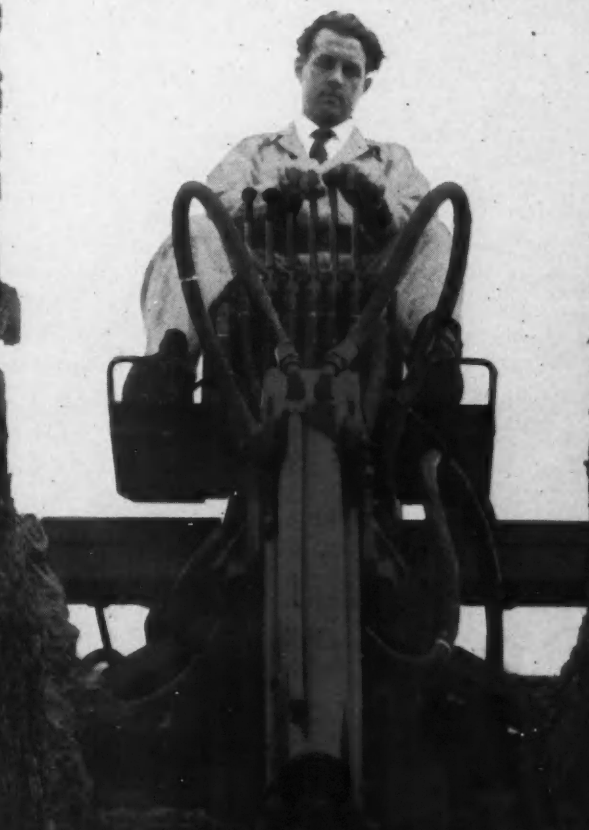
After a meeting with the bodies concerned the Minister has concluded that there should be a limited competition for the design of the new choir school. This course is acceptable to the Dean and Chapter, the Local Authorities and the Commission. The President of the Royal Institute of British Architects is advising on the arrangements for the competition.

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MORE RESEARCH NEEDED ON TRAFFIC ENGINEERING

Recommendations by Road Research Board

ROAD casualty figures for 1960 (7,000 killed and over 340,000 injured) are the highest ever recorded and the Road Research Board, in its report for 1960*, emphasises that it is particularly concerned with lines of research that have a direct bearing on accident rates.

But its value can only be fully realised if the results of this research are widely known and promptly applied. The Board stresses this and welcomes the close co-operation between the Ministry of Transport and the Laboratory on "all specifications for important constructional schemes on trunk roads and motorways." It also gives examples of successful collaboration between the Laboratory and Government departments and local highway authorities, resulting in the publication of three reports, one of which marks the first occasion on which agreed standards of construction for all classes of roads have been published in this country.

Other major points from the Board's report include:

Research is being undertaken on the design, construction and use of hard shoulders on motorways; the value of the Laboratory's method to predict the traffic flow on the M.1 has been confirmed by the close agreement between the predicted and actual figures, and the Board would like to see more traffic engineering research carried out in the universities.

Two important steps were taken towards closer international co-operation. The Director of Road Research (Sir William Glanville, C.B.E., F.R.S.) acted as host to a meeting on scientific research into road safety under the auspices of the European Productivity Agency of the Organisation for European Economic Co-operation, and took part in discussions aimed at forming an Organisation of European Road Research Laboratories to foster international co-operation in the field of research on problems in construction and maintenance of roads.

Research in 1960

The Director's report contains details of the research carried out by the Laboratory during 1960. The subjects include:

Traffic and Safety

Future Traffic

The Laboratory has estimated that, on the current rate of growth of 7 per cent., there will be 17m. licensed vehicles in Great Britain in 1970 and 36m. vehicles in 2010.

Parking Without Lights

Since parking regulations concerning parked vehicles were relaxed in the London area, the number of accidents involving parked vehicles at night increased by more than 50 per cent. No corresponding increase has occurred in the rest of the country.

Traffic in Edinburgh and Glasgow

A survey by the Laboratory's Scottish branch shows that since 1957 traffic in Edinburgh has increased by 8 per cent. per year (i.e. by about the national rate) but by only 2 per cent. in Glasgow.

Vehicle-presence Detector

To help detect traffic congestion, detectors that respond to the presence of moving or stationary vehicles are being developed. One use of such a detector is to indicate, at a roundabout controlled by signals, that the number of vehicles in the roundabout is such that locking is imminent. The signals could then be

automatically set to "all-red" to allow vehicles to disperse freely.

Skidding Resistance of White-road Markings

Many types of road-marking have been tested for resistance to skidding in wet weather. The best results were generally obtained with the more conventional road-marking materials—thermoplastic (superimposed and inset) and concrete.

Rubber for Car Tyres

The discovery of the importance of the resilience of tread rubber in relation to skidding on wet roads has led tyre manufacturers to investigate the possibility of producing tyres with lower resilience (higher hysteresis loss) without the associated difficulties of overheating and increased power losses. In 1960 one manufacturer had already produced a tyre of lower resilience than normal, giving some improvement in skidding resistance on slippery rough-looking surfaces.

Injuries Sustained in Road Accidents

Although head injuries are the most frequent feature in fatal or serious road accidents, about one-third of the drivers and one-fifth of the passengers killed in motorcars had chest injuries which caused or could have caused death. The Laboratory is now investigating ways of avoiding or lessening the severity of such injuries.

Street-lighting Columns

In 1956 about 800 occupants or drivers of motor vehicles were injured or killed in collisions with lighting columns in the Metropolitan Police District. In 1958 about 90 fatalities of this type occurred in England and Wales. Laboratory experiments have shown that a thin sheet-metal column yields more readily than either a tubular-steel or a concrete column, thus reducing the severity of injuries. The use of sheet-steel columns may, however, increase the risk of injury to pedestrians, but on high-speed roads where there are few pedestrians thin-section lightweight columns are to be preferred.

Materials and Construction

Pavement Design

The problem of how to decide by scientific methods the most economic thickness of base material and of bituminous surfacing for any particular set of traffic and soil sub-grade conditions is still a subject for research. Many countries are devoting a great deal of research to this matter and there is a demand for international co-operation in this work.

The increased pace of road construction has called for an urgent solution but unfortunately there is no quick alternative to the full-scale road experiment. The results of the 1957 experiment on the Great North Road at Alconbury Hill in Huntingdonshire are now showing the technical advantages of rolled asphalt.

Settlement and Stability of Embankments

Large settlements which sometimes occur at bridge abutments are being investigated. In practice the construction of an embankment is often stopped short of the bridge abutments. Wedges are left on either side of the bridge and these have to be compacted later. A high state of compaction may then be difficult to achieve. Settlement gauges are being installed in certain major roads during construction to provide data required in the solution of this problem.

Chemical Stabilisation

The use of chemicals, other than conventional materials such as cement, lime and bitumen, to improve the properties of soils for road engineering purposes appears to be limited because of their high cost. These materials, which are mainly natural and synthetic resins, may, however, be used as secondary additives with cement,

lime and bitumen, when they either extend the range of soils that can be treated with these conventional stabilisers or significantly reduce the proportion required, with a net saving in the cost of the stabilising agent.

Compaction of Concrete

Research on vibrating machines for the compaction of concrete has shown that for vibrators designed to operate with a constant dynamic force, a large amplitude and low frequency are preferable. The supporting springs and shape of shoe should be selected in relation to the minimum workability of the concrete likely to be used; generally concrete to be compacted by surface vibration should be designed to have an average compacting factor of not less than 0.82.

Prestressed Concrete

The Laboratory is collaborating with the Belgian Centre de Recherches Routieres in research in prestressed concrete roads, and as part of this scheme a prestressed road—more than two miles long—was constructed during the year at Zwartburg in Belgium. Its behaviour under traffic is being watched and records kept of prestress from gauges in the concrete. Later loading tests will be considered.

Spreading Coated Chippings by Machine

Rolled asphalt wearing-courses in which the stone content is 45 per cent. or less normally receive a final application of $\frac{1}{4}$ in. or $\frac{1}{2}$ in. coated chippings. To spread these uniformly by hand needs skilled labour and slows up the work even where there is no shortage of skilled spreaders. The Laboratory has designed a machine which will automatically spread the chippings quickly and evenly. Such a machine is essential for surfacings on motorways and long lengths of other new roads.

Surface-water Drainage

The accuracy and reliability of the Laboratory's hydrographic method of calculating rates of run-off has been confirmed by the analysis of the records of rainfall and run-off at 11 experimental drainage areas. The measurements have involved the use of a novel automatic recording salt-velocity apparatus developed jointly by the Road Research Laboratory and the Hydraulics Research Station. To eliminate the laborious computations involved when the hydrograph method is used in the design of surface-water drainage systems, the possibility of using an electronic digital computer is being explored.

Electrical Heating of Roads

Electrical heating of road surfacings is a reliable method of preventing the formation of ice. (A double control, which switches on the power only when there are both low temperatures and moisture deposition, ensures economy in power consumption and also provides heat as soon as it is required.)

Now the system is being used more extensively: convenience and reliability at places where the dangers from ice formation are considerable is sufficient to justify the cost. It is now being applied to bridges and flyovers.

Tropical Section

The progress made on all aspects of the work of the Tropical Section of the Laboratory is given in an Appendix. The Section undertakes research on the road and road traffic problems of overseas territories and facilitates the exchange of technical information on road matters.

The research reported concerns road transport in relation to development, operating costs of traffic on inferior road surfacings, traffic problems in overseas cities, studies of the occurrence and properties of tropical soils, pavement design in relation to climate and road construction methods.

* "Road Research, 1960." Published for D.S.I.R. by H.M.S.O., price 7s. net, by post 7s. 7d. (U.S.A. \$1 26c.).

A LAWYER CONSIDERS . . .

Sales of Know-how — Liability for a Latent Defect

REFERENCE was made in an article in *The Contract Journal* for November 10, 1960, to the tax treatment of what may be described as sales of "know-how" which was discussed in *Jeffrey v Rolls-Royce, Ltd.* [(1961) 2 All E.R. 469]. This important case has now gone to the Court of Appeal where the earlier decision has been reversed.

Briefly the facts were that R.R., Ltd., entered into agreements with foreign countries and companies, where they were not carrying on their trade, whereby they supplied complete drawings and manufacturing and engineering data and agreed to give full information on improvements and modifications of design. Licences to manufacture their products would also be given and royalties obtained. For this agreement on selling "know-how" R.R., Ltd., received from one country £50,000 as "consideration for the rights granted" under the agreement. The question was whether this, and similar sums, were revenue receipts to be brought into the profit and loss account or were capital receipts which as such were not taxable.

The vital distinction between revenue and capital receipts is basic to our tax law. But while the distinction itself is clear enough in theory its application to individual facts is often difficult. The Revenue conceded in this case that if R.R., Ltd., had sold only on one occasion their "know-how" for a lump sum the latter could be a capital receipt; they would be disposing of part of the company's capital, its secret knowledge and skill, for money. Indeed in one case this is what happened and the House of Lords did hold that the money received was capital. In this case however there were several similar agreements with several foreign countries and companies. It was therefore argued for the Revenue that R.R., Ltd., who had previously only traded as motor and aircraft engine manufacturers, were extending that trade to technical knowledge and selling "know-how"; and moreover that this sale of "know-how" was but one ingredient, albeit an essential one, in granting licences to foreign countries or companies to manufacture their products.

The Court of Appeal accepted the Revenue's argument and held that these were revenue receipts to be brought into account for tax purposes. Lord Justice Donovan said that the taxpayers had tried to argue that this was a sale of a fixed capital asset; the latter phrase was a convenient one to describe such things as buildings, machinery, licences and so on which a trader uses to produce what he sells; but, as the learned Lord Justice said, "the phrase may be misleading when applied to knowledge, skill and experience. For example, although factory premises, new this year, are not likely to become obsolete next year and to be replaced by another factory which in turn may suffer a like fate, yet this may be true of engineering skill and knowledge in the field of aero engines . . . to speak of a 'fund of know-how possessed by the taxpayers as one of their fixed capital assets' is not an exact description of the situation. The taxpayers are served by their staff and it is in the brains and hands of their staff that knowledge, skill and experience reside. What the taxpayers can do is to make these things available to some third party if they so decide; and it is the ability to do this which is really the taxpayers' asset. Moreover, when the taxpayers do this, they do not part with the knowledge so communicated as they would part with factory premises if sold. They simply share their knowledge with others." Having drawn this important distinction between the first kind of capital assets and the capital asset represented by the company's knowledge and skill the Lord Justice felt that they were using this latter capital

asset so as to produce revenue; it was, in view of the many agreements entered into, being systematically exploited as part of a trade.

Contractors in these days of rapidly changing techniques may often have, in their own trade, knowledge and skill similar to that imparted by R.R., Ltd. Care should be taken to discuss with professional advisers, before any sale of this know-how, the form of the agreement to sell and the chances, in view of this decision, of the receipts being treated as capital and thus not liable to tax.

Liability for a Latent Defect

AN accident caused by a faulty piece of material gave rise to a claim for damages by an employee in *Curran v William Neill and Son, Ltd.* [(1961) 2 All E.R. 108].

C was a skilled steel erector of 38 employed by W. N., Ltd., a firm of steel erectors. He was erecting, between two of the 12 bays in the roof of a factory, a gutter which consisted of 10ft. lengths each of which had an overlay intended to be bolted to the adjoining length to prevent leakage of water between the lengths. Thanks to a demarcation dispute between the plumbers and the steel erectors as to who was entitled to bolt the lengths together they were not in fact bolted. So the guttering was merely put in position and secured by hook bolts which were bolted to steel straps which ran laterally across the gap between the two bays, three such straps supporting each length. C walked along a length of guttering which had been fixed to the lateral straps in order to lay the next length into place. A hook bolt, which was defective in its manufacture, broke, the length of gutter pivoted round and C fell.

His claim against his employers for common law negligence failed. They had taken reasonable care for his safety; the defect in the bolt was latent and was not such that it could be said that the employers ought to have foreseen it.

His claim for breach of duty by his employers under the Building Safety Regulations was more complicated, and involved several of the Regulations.

Under Regulation 24(1) if a working place is such that a person would be liable to fall more than 6ft. 6in. a guard rail has to be provided; C's working place was within the Regulation and so his employers, who had provided no guard-rail, were in breach. But the Court of Appeal felt on the facts the breach of this Regulation had not caused this accident; it would still have happened even if the guard-rail had been provided. The claim under this Regulation therefore failed.

By Regulation 5 suitable and sufficient scaffolds shall be provided for all work that cannot safely be done on or from the ground or from part of the building. C argued that this work could not safely be done from the building and a scaffold ought therefore to have been provided. The Court, however, thought that the guttering was part of the building and that the work could safely be done from it; the test for deciding this was whether the risk of harm from doing the job without scaffolding was reasonably foreseeable — here the risk of harm arising from not providing a scaffold was not reasonably foreseeable. The claim under this Regulation also therefore failed.

Finally C relied on the definition of a scaffold in Regulation 3(2) and Regulations 7, 8 and 12 which provide certain standards, etc. which scaffolds must maintain. It was alleged that the guttering on which C was working was itself a scaffold and the standards laid down in Regulations 7, 8 and 12 applied to it. The Court was satisfied that the obligation as to the standards of scaffolds was absolute on the employer in the sense that it would

be no excuse for the employer to plead for instance a latent defect in the material used; so in this case, if the standards applied, the latent and unforeseeable defect in the hook bolt would have been no excuse to the employer.

The real question remaining then was — was the guttering a scaffold which had to maintain these standards? "Scaffold" in Regulation 3(2) is first defined as a "temporary structure"; now this guttering, though incomplete, was part of a building and was certainly not intended to be a temporary structure. However the Regulation goes on to include in the definition of "scaffold" any "working platform, gangway, run, ladder or step ladder"; C argued therefore that the gutter, though a permanent structure, nevertheless came within the meaning of "scaffold" because it was a working platform or gangway. The majority of the Court of Appeal accepted that the definition of "scaffold" was extended by these words to include other than temporary structures so that this guttering could be a "scaffold" provided it came within the extended meaning of that word and could be called a working platform or gangway. The Court were however unable to say that this guttering could be so described. The words "working platform" and "gangway" must be given the meaning they would ordinarily have in relation to building operations; and Lord Justice Pearson said, "It would be wrong to say that because workmen are standing on a part of a building to do some building work, therefore, necessarily that part of the building is a working platform. Similarly, it would be wrong to say that, because workmen are going themselves and transporting materials to the working place by a certain route across part of a building, therefore that route is necessarily a gangway or run." The Court therefore held that the guttering was not a scaffold within the meaning of the Regulations and the claim under this head also therefore failed.

SCHOOL BUILDING CONSORTIUM

After investigating the "consortium principle" for the building of schools and reporting favourably upon the C.L.A.S.P. system of construction, Hampshire County Council have decided to become a full member of a new consortium of county authorities which is being set up under the title of S.C.O.L.A. (Second Consortium of Local Authorities).

This new group is proposing to adopt some of the best features of C.L.A.S.P. and hopes similarly to make savings by the bulk purchase of components. It aims, however, to produce a more flexible system in which brickwork and finishes associated with the county may be used where advantageous.

It is proposed to erect the first S.C.O.L.A. school in Hampshire next year. This will be a two-form entry junior and infant school, and will probably be duplicated in the same year's programme. If successful, the aim is to include a considerable number of such schools in Hampshire's building programme for 1963/64.

WARNING ON EXCESS RATES AND ALLOWANCES

In his statement presented at the recent annual general meeting of Turriff Construction Corporation, Mr. W. G. Turriff, chairman, says the national labour position is causing them much concern.

Considerable inflation of total "take home" pay in the form of excess rates and allowances is current and unless this is taken a grip of by our industry, construction costs will rise to a level which would be unhealthy for the long-term stability of the industry, he states.

CONSTRUCTION IN PROGRESS AT DUNGENESS

A FURTHER illustration of the progress being made on the Dungeness Nuclear Power Station in Kent is provided by these recent photographs taken on the site.

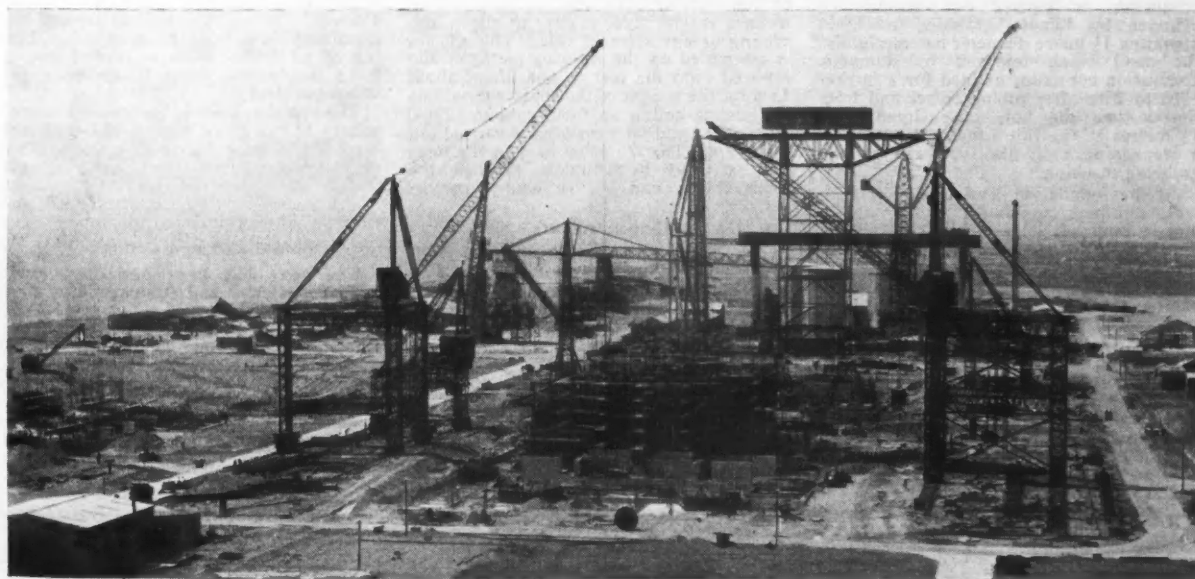
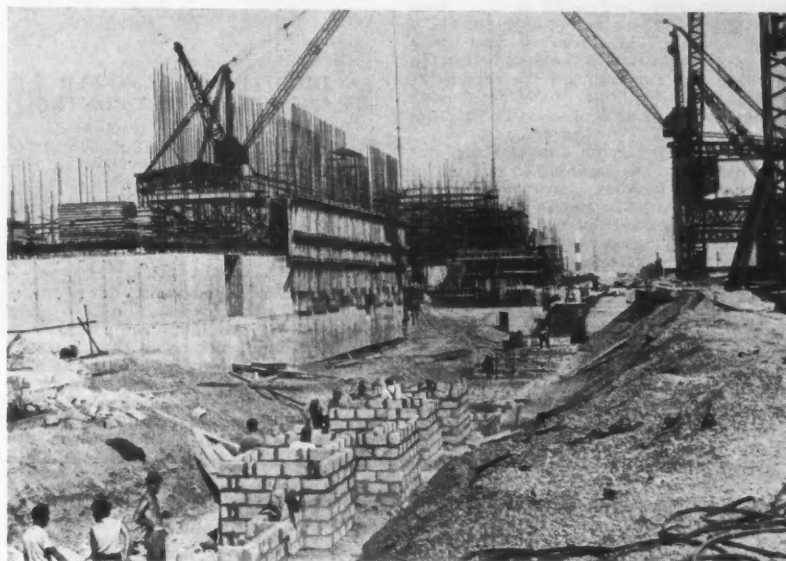
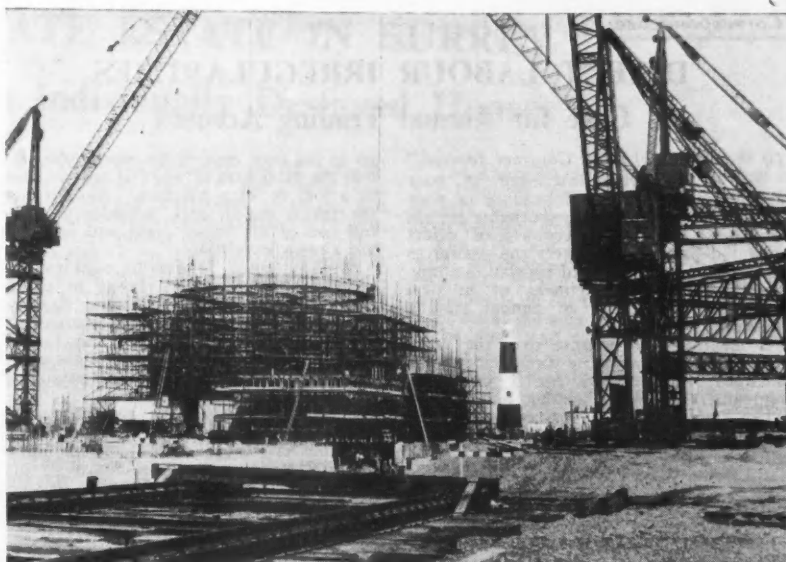
As reported in *The Contract Journal* of August 3, the contractors have now been on the site for 12 months, and construction has reached above ground level on the two reactors. The giant 200-ton capacity Goliath crane will soon be operational.

Top right is the No. 1 reactor, viewed from the south west. The biological shield, which will surround the pressure vessel, has reached half its full height of 60ft. It is constructed of high density concrete varying in thickness from 5ft. 6in. to 6ft. The secondary shielding walls are also above ground level and back-filling is in progress.

The centre photograph shows the two reactor sites, No. 2 being less advanced.

Below is a general view over the site, showing the turbine house and reactor areas.

The station was designed and is being erected for the Central Electricity Generating Board by The Nuclear Power Group. Sir Robert McAlpine and Sons, Ltd., carry out the civil engineering work of the group's activities.



Correspondence

DIRECT LABOUR IRREGULARITIES

Case for Annual Trading Account

To the Editor of "The Contract Journal."

Sir,—I was very interested in your article under the above heading in your issue of August 24 which spotlights certain irregularities in the accounts of direct labour departments. Surely the answer to this is the introduction of legislation allowing a building department of a local authority to present an annual trading account.

I mention this because over the years the trend in building by direct labour has changed considerably, for I can well remember the years leading up to 1939 when employed by a local council, I was engaged on new capital building schemes arising out of slum clearance, when the local authority was carrying out a necessary service and at the same time employing mostly unemployed local labour, and the question of competitive tendering didn't seem to come into it. Today the local authority is in a different position, it is the housing body responsible for housing all types of the community and in most cases is faced with a large building programme, and is using all means available to do this including building by direct labour. This, of course, is a vastly different proposition to the days before the war and one can well see the reasons in placing local authority building departments on the same footing as contractors when the work is tendered for.

This in itself can be a good thing, but it is hardly sound reasoning to say on the one hand a building department is the same as a contractor and then proceed to restrict its working by not allowing the department a measure of elasticity as enjoyed by contractors. All managers of direct labour departments endeavour to carry out their work as efficiently as possible, but they are only too aware of the disadvantages in a system which asks them to furnish separate costings for each individual job. Often a manager is faced with a redundancy problem involving the paying off of sound gangs of men built up over years, simply because he can only

go to his own council for work. Not for him the taking on of work at cost or even at a loss to keep his men. Not for him the taking on of work in order to make full use of his heavy plant and to cover his known overheads.

With an Annual Trading Account it would be possible for a department to create reserves to be kept for the rainy day, for the purchase of special plant, increase in salaries to specialised staff, and for all manner of contingencies that might arise, and would certainly eliminate all possibility of irregularities taking place.

I consider this matter a vital one to direct labour and if introduced would certainly ease the burden of the municipal building manager who usually is a very hardworking and conscientious public servant doing a very essential service and, in this respect, I was very pleased to note your reference that at no time during the investigation of the authority in question was there any suspicion of action of a fraudulent kind.

Yours, etc.,

A. E. ULLMER,

Ashurst Drive,
Ilford, Essex.

OIL HYDRAULIC POWER
TRANSMISSION AND CONTROL

The Hydraulic Plant and Machinery Group of the Institution of Mechanical Engineers are planning to hold a conference on "Oil Hydraulic Power Transmission and Control" on November 29 and 30, 1961.

Arrangements have been made for the presentation of some 20 Papers, with opportunities for discussion not only in the conference hall, but at informal social gatherings. Additionally, manufacturers of hydraulic equipment have agreed to admit visitors to their works.

A registration form to attend the Conference is available on application to the Secretary of the Institution, 1 Birdcage Walk, Westminster, London, S.W.1.

SEWAGE PURIFICATION
SYMPOSIUM PAPERS

THE following Papers are to be presented at the one-day symposium on "The Treatment of Industrial and Sewage Sludges," to be held by the Metropolitan and Southern Branch of the Institute of Sewage Purification at Friends House, Euston Road, London, N.W.1, on December 20, 1961:—

"Chemical Industry Solids Disposal Problems" by M. E. Chodak, B.Sc., Chem.E., A.M.I.C.E., senior mech. engr., Albright and Wilson (Mfg), Ltd; "Disposal of Solids in the Paper Industry" by T. Waldmeyer, B.Sc., F.R.I.C., M.Inst.S.P., Reed Paper Group; "Disposal of Solids and Use of Sludges for Concentrating Radioactive Wastes" by R. H. Burns, B.Sc., F.R.I.C., M.Inst.S.P., Industry Chemistry Group, A.E.R.E., Harwell; "The Recent Investigation of the Dewatering of Sewage Sludges" by J. Swanwick, B.Sc., Ph.D., A.R.I.C., Water Pollution Research Laboratory; "Anaerobic Digestion of Sewage Sludges" by S. G. Burgess, B.Sc., Ph.D., F.R.I.C., F.Inst.S.P., scientific adviser, London County Council; "Disposal of Sludges on Land" by A. R. Stone, A.I.Mech.E., M.Inst.S.P. manager, City of Nottingham Sewage Disposal Department.

The total cost of the symposium will be £3, inclusive of 10s. registration fee, preprints of papers, morning coffee, lunch and tea. Arrangements will be made for visits by small parties to the University College laboratories, and, if demand is sufficient, to sewage treatment works in the London area.

The hon. symposium secretary is A. F. Green, B.Sc., F.R.I.C., 37 Frensham Road, New Eltham, London, S.E.9.

FIVE DAY WEEK GRANTED

The Scottish Federation of Plumbers' and Domestic Engineers' Associations have granted the five-day week as from October 2. At the same time the overtime provisions for any work carried out on Saturday will be changed to time and a half from 8 a.m. till 1 p.m. and double time thereafter.

(Concluded from page 1051)

15-ton derrick and sunk into Keuper marl by a "Benoto" tubing machine. The tubes are extended to keep the top level above the working platform and sinking continues until a seal is obtained in the marl, usually at about 10ft. depth. At the same time excavation is carried out within the cylinder by Benoto grabbing machines operating 1½ metre diameter hammer grabs, the spoil being removed by dumpers. Excavation continues unlined for a further 15ft. to 25ft. after tubing ceases and from time-to-time the hole is enlarged from 1½ metres to the full 2 metre diameter by a trepanning tool, also operated by the grabbing machine.

At the foundation level an in-situ concrete plinth is constructed and on it the pier is built of precast concrete cylinder units 6ft. high and weighing about 6 tons. Initially, the joints were caulked with earth dry mortar, but an improved joint of comparable strength is now produced using a sand/cement mortar with a high strength additive.

Macalloy prestressing bars and mild steel bars are lowered into ducts in the cylinder walls by derrick and nuts are fitted at the lower ends of the Macalloy bars through "windows" in the base units. Stressing follows immediately. After the grouting of the bar ducts, a "Colcrete" plug is formed at the bottom of the cylinder and the remaining void is filled successively with sand and weak concrete. An in-situ concrete extension completes the pier to the correct level and the steel caisson is then extracted utilising a second tubing machine fitted with hydraulic jacks of 60

tons capacity. As the tube is withdrawn the annular void between the concrete pier and the excavation is grouted through injection pipes from the surface.

Each pier according to its location terminates in a fender block or capping of in-situ concrete. The fender blocks are of considerable size and are constructed using a special steel shutter to allow concreting at any state of tide. The shutter is assembled on the working platform and lowered onto the pier in one lift of about 15 tons, the weight of the shutter providing the sealing action on foam rubber. Final adjustment and later striking is carried out by divers. The Macalloy bars in the piers are extended by couplers through the fender block and are stressed from the surface.

Superstructure

The erection of the superstructure follows the substructure construction as closely as possible. The precast units arriving from the casting yard are handled into position by a 15-ton derrick travelling on a gantry carried by the shore line of cylinders. Main beams are placed unstressed and the stressing tendons are winched through the two spans to be anchored at the quay face of the fender block. Some difficulty was experienced initially in drawing the standard CCL cables through the 2in. ducts due to the severe curvature over the central support. Attempts have been made to develop a new type of spacer of 1½in. diameter which concentrates the cable and allows the grout to flow around it rather than through it, but pending completion of experiments 12-wire unspaced cables have been sub-

stituted anchored by the Freyssinet system.

Four out of seven beam cables are stressed at this stage, followed by deck slab placed to an interleaved pattern. "Ductubes" are drawn through the transverse ducts in the deck and inflated to allow the jointing mortar to be placed. Transverse cables are then placed and stressed followed by the stressing of the remaining three main beam cables. Grouting of all cables ducts is carried out by hand diaphragm pump to complete the structural deck.

The remaining work comprises a service gallery at the shore side of the deck, the quay facing, deck distribution slab and top deck slab incorporating crane and rail tracks, all in in-situ reinforced concrete. The fixing of bollards, rubber fenders and rubbing strips completes the work.

Consultants and Contractors

The quay has been designed by Sir William Halcrow and Partners, with A. J. and J. D. Harris acting as consultants for the prestressed concrete superstructure. Demolition and Construction Co., Ltd., are the main contractors.

Other companies engaged on the scheme include: Steel beam and cylinder moulds, fender block and pile cap formwork—Stelmo, Ltd.; deck stressing, anchorages and jacks—Cable Covers, Ltd.; beam stressing, anchorages and jacks—P.S.C. Equipment, Ltd.; beam and deck slab tendons—Rylands Bros., Ltd.; cylinder stressing, bars anchorages and jacks—McCalls Macalloy, Ltd.; cement grouting, Colcreting and Bentonite processes—Cementation Co. Ltd.; railway installation—Industrial Sidings, Ltd.

A PRIVATE ESTATE IN SURREY

Seventeen Individually Designed Houses

A PRIVATE estate of seventeen individually designed houses is being developed at Oast Road, Oxted, Surrey, by Residential Designs, Ltd., of 157 Victoria Street, London, S.W.1. Serviced by a private road, the estate will consist of three-, four- or five-bedroomed houses, each designed and built to suit the individual needs of the purchaser at prices ranging from approximately £8,000—£9,500, inclusive of land.

Nearly all the available ½-acre plots have been reserved and the first houses have now been built. One of these dwellings, named the "Cranleigh," a four-bedroomed, two bathroomed house, was recently opened as a show house, prior to occupation.

Exterior

Externally, the "Cranleigh" has a wide contemporary frontage, a third of which is faced with "Crowborough" multi-coloured facing brick.

The remaining two-thirds of the upper floor frontage is faced with white painted feather-edge boarding, beneath which a flat roof, covered with green mineralite bituminous roofing felt, extends over the porch. This is supported, on one side of the porch, by random rubble walling in Kentish Ragstone, and, on the other, by twin white-painted pillars. Above the dining-room window, which is at the front of the house, this roofing gives place to an openwork of white-painted beams.

The main roof is covered with double Roman pattern interlocking tiles and the roof space is glass-fibre insulated. Glass tiles are to be inset into the roof, to admit daylight to the roof space.

Front door furniture features the latest American-styled "Holiday" satin-chrome cylinder centre-door knobset—a combined door knob and locking device—which is making its first appearance in England on the "Cranleigh" front door. All other ironmongery fittings throughout are of modern British and Continental designs, with Olympian finish.

Ground Floor Interior

The spacious and light entrance hall has a cloakroom and is centrally heated. Thermostatically controlled central heating is by ducted warmed air, automatically circulated to maintain a fresh atmosphere. In summer, this system can be switched to circulate cool fresh air throughout the house. It is provided by a "Lincoln" Canadian Oil-Fired Furnace, fuelled by Esso Domestic Oil. The "Lincoln" is located in a corner of the garage.

All the internal doors are in polished West African cedar. The stairs and balustrades are constructed in sapele, and the infill between the balustrades is of non-twist white plastic rope.

Flooring in the L-shaped living-room is of polished strip maple, in natural colouring. The main section of this room (23.4 x 11.6) is at the rear of the house with wall-to-wall ¼in. plate glass picture windows overlooking the garden. These incorporate French-doors, and are surmounted by four small pivot windows.

The dining-room (11ft. x 8ft. 9in) is at the front of the house and has a deep picture window. There is a connecting door between dining-room and kitchen.

The 12ft. 6in. x 11ft. kitchen is fitted with contemporary built-in furniture by "Kandya," a feature of which is a 12in. clearance from the floor. This enables one to stand at the sink or work-top cupboards in comfort, and there are no plinths to be kicked or scuffed by floor polishers. Worktops are surfaced with formica with natural teak splashbacks and there are



Lounge of the Cranleigh show house

The "tail" of the L (11.0 x 8.9) extends to the front of the house, where another large window is sited, and this section can, if required, be partitioned off to form a separate study.

In the centre section of the living-room, is a typically English fireplace—of random rubble walling in Kentish Ragstone. Long and low, with a log recess adjoining the hearth, this is surmounted by a chimney breast panelled in black cherry wood. The fireplace has a manually operated damper so that the chimney can be sealed off, when not in use, to prevent warmed air from the central heating system escaping up the chimney.

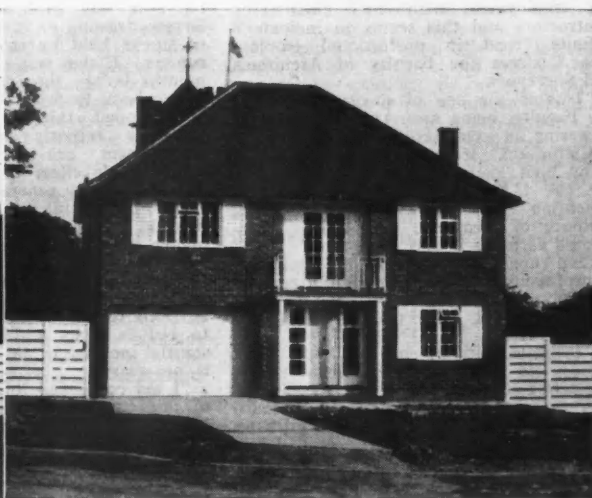
ample power points including panel point for electric cooker. Flooring is of vinyl plastic tiling. A glazed door gives access to the garden and to the rear door of the garage.

The hot water supply is regulated by a dual-type immersion heater installed in the hot water cylinder. The heater has two elements—one to rapidly heat a quarter of the water in the cylinder and the other to heat the whole cylinder full. A control panel with two switches is located in the kitchen, where a pilot light indicates when either of the elements is working.

(Concluded on page 1059)



Cranleigh house



Dalkeith house

£439,355 MOTORWAY LINK CONTRACT

THE Birmingham-Preston Motorway (M.6), now under construction, it to be linked with the A.49 (Preston-Winchester) trunk road, about two miles south of Wigan, by a new length of motorway, approximately one mile long.

Mr. Ernest Marples, Minister of Transport, has authorised Lancashire County Council to let a contract for this work to the consortium of Sir Alfred McAlpine and Sons, Ltd., and Leonard Fairclough, Ltd., as an extension of their motorway contract. The contract price is £439,355, and the work is to be completed at the same time as the main motorway works in June, 1963.

The new link road will leave the Birmingham-Preston Motorway at a point near North Ashton and pass north-eastwards to join the A.49 about 800yd. north of its junction with Soughers Lane at Ashton-in-Makerfield.

It will have dual 24ft. carriageways, each with a 10ft. wide hard shoulder and separated by a 15ft. wide central reserve. A bridge will carry Drummers Lane across the new road.

The works have been designed for the Ministry by Lancashire County Council (county surveyor and bridgemaster—Mr. James Drake, B.Sc., M.I.C.E., M.I.Mun.E.)

CLUGSTON TO CONSTRUCT £357,302 BY-PASS

The Lincolnshire village of Lacey, scene of traffic congestion on the Sheffield-Grimsby trunk road (A.18), is to be by-passed.

The Minister of Transport has authorised Lindsey County Council to let the contract for the constructional work to Clugston Civil Engineering, Ltd., at a figure of £357,302.

The two-mile road improvement from Lacey crossroads to the Grimsby borough boundary will include the three-quarter mile Lacey By-pass, to the south of the village, and a new bridge over the Lacey Beck. The whole length will have dual 24ft. carriageways in place of an inadequate single carriageway.

At Lacey crossroads, at the western end of the by-pass, there will be a large roundabout, where part of the traffic leaves A.18 for A.46, the Lincoln road.

The improvement scheme has been designed by Mr. C. K. Tallack, M.I.C.E., M.I.Mun.E., county surveyor of Lindsey.

FACULTY OF ARCHITECTS AND SURVEYORS

"Civil Engineering Surveyors"

"Recent research has revealed that many land and mining surveyors are finding employment with civil engineering contractors and this seems to indicate a definite trend in professional employment," states the Faculty of Architects and Surveyors.

"This is the age of specialisation and the Faculty, being aware of this trend, is preparing an examination syllabus to meet the situation. It should be recorded that many civil engineering projects throughout the U.K. and overseas are already benefiting from the knowledge and experience of members, who can be considered as being in this group."

Civil engineering surveyors interested in professional membership should contact the Secretary, The Faculty of Architects and Surveyors, 68 Gloucester Place, London, W.1.

HEAT OFF

Heating installation at Rhiwlas Primary School, Caernarvonshire, for which tenders were invited by July 10, is not being proceeded with owing to recent capital expenditure restrictions.

HURST PARK RACECOURSE DEVELOPMENT

Approval by Housing Minister

MR. HENRY BROOKE, Minister of Housing and Local Government, has granted permission for houses and shops to be built on about 54 acres of Hurst Park race-course and car park, West Molesey, Surrey. He considers that the future of the remainder of the 121-acre site should be the subject of further consideration by the owners and appropriate authorities.

An application to develop the whole course with housing, open spaces, a sports ground and a school playing field, was made by the Hurst Park Club Syndicate, Ltd., and Wates, Ltd., contractors, and was considered at a six-day public inquiry in October, 1960. In this original plan housing for more than 3,700 people was proposed. The modified plan, now approved, would provide housing for about 2,000.

Commenting on the decision, Mr. Norman Wates, chairman of Wates, Ltd., said: "We welcome the Minister's decision to permit development at a minimum density of 40 persons to the acre. . . . As soon as the Hurst Park directors decide to proceed with the scheme we will start immediate talks with our consultants and other interested parties and hope to be able to publish detailed proposals about the revised scheme later this year. If all goes well we hope to start the first phase of the development in 1963."

REBUILDING PLAN FOR EUSTON STATION

Planning permission for the reconstruction of Euston Station, providing for complete demolition and rebuilding in two phases, is being sought from the London County Council by the British Transport Commission.

The first phase, which will be combined with bringing the rail electrification into the station, will include longer platforms, new signal box and parcels handling facilities, a telephone exchange and a restaurant car depot, and new track.

In the second phase there is expected to be considerable commercial development, with offices and shops, in the area of the concourse. Detailed plans have not yet been prepared for the scheme.

FALL IN STEEL DEMAND

Speaking at the recent annual general meeting of the Consett Iron Co., Ltd., Lord Ridley, C.B.E., the chairman, said the demand for steel throughout the industry had fallen rather rapidly and in common with other firms they had had to reduce the level of output.

Though the engineering and allied industries at home seemed to be fairly busy, it was probable that they were largely drawing on the very high tonnage of stocks held by stockholders and consumers. If that was so it might be some months before the industry could expect to get back to full production.

"I myself think that the economic measures recently introduced by the Government are likely to have an unfavourable effect on the steel industry and on industry generally in this country," stated Lord Ridley. "The reduction in demand which will be caused both by higher indirect taxation and by shortage of credit may in the short term reduce inflationary pressure, but it will also increase costs and is unaccompanied by any long term proposals to enable industry to reduce costs and to make the substantial increase in our export trade which is necessary."

"I am convinced that the greatest need of this country now is to reduce manufacturing costs, so that we can be more competitive both at home and abroad, yet every action taken by the Government in respect of industry seems up to now to work directly or indirectly in the opposite direction."

Late Construction News

HUDDERSFIELD HOSPITAL TENDERS.—Tenders will be invited in the next few weeks by Leeds Regional Hospital Board for phase 2 of the £2½m. Lindley Hospital, near Huddersfield. This phase will include a second ward block, with about 285 beds, certain clinics, staff dining rooms, and a two-level car park. Tenders are expected to be invited for phase 1b in about a year's time. George, Trew and Dunn, 50 Eastbourne Terrace, London, W.2, are the architects.

NORWICH DWELLINGS.—Norwich City Council have been recommended, subject to Ministry approval, to accept the £149,551 tender of R. G. Carter, Ltd., Drayton, Norwich, for 36 flats, 40 maisonnettes and 20 garages at the Midland Street redevelopment area.

STOKE-ON-TRENT BUILDINGS.—A contract has been placed with Taylor Woodrow Construction, Ltd., Southall, Middx., by the English Electric Co., Ltd., for additions to Kidsgrove Works, near Stoke-on-Trent. Work, which has commenced, includes construction of a single-storey factory and a two-storey office block, and is estimated to cost £300,000.

CARDIFF AIRPORT BUILDINGS.—Work has just commenced on the erection of headquarters buildings for Cambrian Airways at Rhose Airport, Cardiff, estimated to cost £50,000. The contractors are John Morgan (Builders), Ltd., 14 Cathedral Road, Cardiff, and the architect is Mr. Kenneth Graham, 10 Churchill Way, Cardiff.

HARROGATE LABORATORY CONTRACT.—The contractors for the erection of a laboratory for chemical research and an amenity block with two flats at Otley Road, Harrogate, for the Tobacco Manufacturers' Standing Committee, 6 Bruton Street, London, W.1, are W. G. Birch (Harrogate), Ltd., Montpellier House, Harrogate. Work will start at once.

B.O.A.C. HANGAR EXTENSIONS.—Tenders are now being invited from selected contractors and a contract is expected to be placed in mid-October by B.O.A.C. for extensions to the wing hangar at London Airport, at an estimated cost of £14m. The depth of the hangar will be increased on both sides of its 600ft. length by 70ft. Frederick S. Snow and Partners, 144 Southwark Street, London, S.E.1, are the consulting engineers.

HARROGATE FLATS TENDERS.—Tenders will be invited in about a fortnight from selected contractors, and the contract will be placed in four or five weeks' time, for erection of 12-storey blocks of luxury flats at Park Place, Harrogate, for Park Place, Harrogate, Ltd. The cost of the first two phases of the scheme, providing for 200 dwellings, will be about £750,000. Plans are by Morris de Metz, 29 Gloucester Place, London, W.1, with James Cubitt and Partners, 25 Gloucester Place, London, W.1, acting as consulting architects for layout and elevations.

NEW KEIGHLEY SCHOOL.—Work began this week on the erection of a new boys' school at Oakbank, Ingrow, Keighly, for West Riding C.C. The estimated cost is £328,437, and the contractors are F. Shepherd and Son, Ltd., Blue Bridge Lane, York.

A DEVON PLANT EXHIBITION

Plant Engineering Services (Exeter), Ltd., are to hold an exhibition of plant and machinery at their premises at Costly Street, Ivybridge, Devon, from September 11-15.

Among the manufacturers supporting the exhibition will be Atlas Copco, Ltd.; John Allen and Sons (Oxford), Ltd.; E. Boydell and Co., Ltd.; British Hoist and Crane Co., Ltd.; Cornelly Equipment Co., Ltd.; Kine Engineering Co., Ltd.; R. A. Lister and Co., Ltd.; Machinery Continental, Ltd.; Moore's Plant, Ltd.; Petters, Ltd.; Portasilo, Ltd.; Kango Electric Hammers; Vigzol Oil Co., Ltd., and Winget, Ltd.

MINISTRY OF WORKS FIRM-PRICE POLICY PRAISED

Material Suppliers Criticised

PRAISE for the way the Ministry of Works operates firm-price tendering has come from Mr. E. B. Cruse, managing director of A. Roberts and Co., Ltd.

Speaking at the recent "topping-out" of a new Crown Office building being built by his company at Keyworth Street, London, S.E.1, Mr. Cruse said, "The industry is in the main pleased with the service it gets from the Ministry of Works and, indeed, from most of the other Government departments in the implementation of firm-price tendering, provision of drawings, details, etc."

"The difficulties of maintaining firm prices are, however, very much in the hands of the manufacturers of building supplies, who are increasingly refusing to guarantee firm prices, thus leaving the onus of forecasting trends on the builders."

He added that this form of tendering, if not safeguarded, would defeat its own purpose, and get into disrepute among contractors generally. This, he stated, would be unfortunate, since the industry as a whole was solidly behind the idea of thorough planning in advance, which was the prerequisite of this form of contract.

Officiating at the "topping-out" was Mr. Richard Thompson, Parliamentary Secretary to the Ministry of Works, who said that their success of firm-price contracting was a first-class example of intelligent and friendly co-operation between industry and a Government department.

The Ministry of Works tried to set a good example by means of very thorough pre-planning in connection with their contracts and it was nice to know that from the contractors' side this really did help him to plan and organise his own arrangements in an orderly and efficient way.

Mr. Thompson thought that if more private firms paid more attention to this

very important aspect of any major constructional building, we should have more jobs completed on time, within the contract price, and with a great deal less frustration all round.

Building Construction

The new building in Keyworth Street will house four Government departments at present scattered in various premises in Southwark. It is a reinforced concrete frame building of slab floor construction, with two four-storey wings linked to a 10-storey block. The design is by Mr. E. H. Banks, F.R.I.B.A., F.R.S.A., senior architect, M.O.W.

An unusual feature for a London building is the use of Guiting stone—a calcium limestone from Gloucestershire—as a facing material. It has a more yellow tinge to



Artist's impression of the completed building

it than Portland stone, which is also being used to complete the quoins and surrounds. Green, grey and rust coloured tiles will make up the panels below the windows.

The building is quite close to the Elephant and Castle district and will eventually become part of the redevelopment scheme for that area. It will provide a gross floor area of over 60,000 sq. ft., and is being erected at a cost of about £230,000.

DORMAN LONG DEVELOPMENT

First Major Contracts Placed

THE first major orders in connection with the present stage of the Dorman Long (Steel), development programme have now been placed.

Davy United, Sheffield, have secured the order for a 48in. by 130in. high-lift slabbing and blooming mill at Lackenby, at a price of £1,300,000.

Intended to roll 25,000 tons of ingots per week, to produce blooms and slabs, the mill will be sited alongside Dorman Long's existing Universal Beam Mill at Lackenby. The slabs produced will supply the existing wide plate mill at the company's Redcar Works, and the blooms necessary to meet the increasing requirements of the company's medium and light finishing mills. The mill will also supply in due course a new universal 4-high plate mill capable of producing 60in. wide plates with rolled edges.

The soaking pits, valued at approximately £700,000, will be supplied by Priest Furnaces, Middlesbrough.

The order valued at approximately £450,000 for the Blooming and Slabbing Mill electric drive, has been placed with Associated Electrical Industries, Ltd. This new drive consists of 2-5,000-h.p. motors driving top and bottom mill rolls independently. The motors are supplied from grid controlled reversing rectifiers.

Orders will shortly be placed for the mill auxiliary motors, control gear switchgear and electrical distribution equipment.

The Wellman Smith Owen Engineering Corporation, Ltd., will supply ingot stripping and soaking pit cranes to the value of approximately £400,000.

All the foundation work for the mill will be carried out by the Bridge Department of Dorman Long, who did the foundations of the Lackenby Steelplant and Universal Beam Mill. The mill buildings will be supplied and erected by Dorman Long (Bridge and Engineering), Ltd., Redpath Brown and Co., Ltd., and the Tees Side Bridge and Engineering Works, Ltd.

QUANTITY SURVEYOR'S LEGAL POSITION

Brixton School of Building Lectures

The Brixton School of Building over the past few years has arranged at the Building Centre a number of lectures on the legal aspects of building work, given by Donald Keating B.A. Barrister-at-Law.

"The Quantity Surveyor—His Legal Position" is the next series of lectures to be given by Donald Keating at the Building Centre commencing on Tuesday, October 31, 1961, at 6 p.m. and continuing each Tuesday evening for five weeks.

The outline syllabus of the course is as follows:—

1. Meaning of term. His employment. Authority of architect to engage. Remuneration—amount; by whom payable. His relationship with contractor—liability, if any, in contract; negligence; fraud.

2. Duties to employer I. Standard of skill required. Preparing bills of quantities and/or specification. Checking the tender—errors; rectification of contract.

3. Duties to employer II. Valuations during work. Variations. Right of employer to engage additional surveyor. Sub-contractors. Extent of authority as agent.

4. Duties to employer III. His position under the R.I.B.A. form. Breach of duty and its consequences.

5. Litigation. The quantity surveyor as expert witness. Preparation of his report. The Scott or Referee's Schedule and some other important aspects of procedure. The quantity surveyor as arbitrator.

Application for admission to this course should be addressed to the Secretary, Brixton School of Building, Ferndale Road, S.W.4, not later than October 20, 1961. Fee for the course is £1.

(Concluded from page 1057)

Electrically the entire house is wired on a ring main system with a circuit breaker type fuse box in the garage.

There is a useful cupboard beneath the stairs, providing a conveniently clear storage space, as all meters, etc., are located in the garage.

First Floor

Upstairs, the landing forms a gallery around the head of the stairs, giving access to four bedrooms, the main bathroom, and the linen cupboard which houses the hot water storage cylinder.

All bedrooms have tongued and grooved flooring.

The two smaller bedrooms—bedroom 4 (11ft. x 7ft. 9in.) and bedroom 3 (11ft. x 8ft. 9in.)—overlook the front of the house.

Bedroom 3 has three windows—one in the side wall and two square pivot windows to the front, which run in line with two matching pivot windows on the landing. Externally, the four pivot windows are an attractive feature of the front elevation.

To the rear of the house, bedroom 2

(12ft. 6in. x 11ft.) is equipped with a contemporary-styled coloured wash basin.

The master bedroom (13ft. 6in. x 11ft.) has an adjoining bathroom equipped identically to the main bathroom, but here the colour scheme is pale green for the suite and flooring, and black for the wall tiling.

The "Cranleigh" is not a "set plan" house, of which any number will be built, but was designed as a general example of the quality of the company's work and has been sold for approximately £8,000.

"Package Deal"

Residential Designs find and purchase sites for the development of a number of select homes and obtain outline planning permission from local authorities. The prospective owner selects a site from those available, arranges to purchase the land and signs a building agreement for the property to be erected. He outlines his requirements to the company whose staff architect prepares the plans and obtains the necessary planning approval. Residential Designs sub-contract all the construction work to various contractors.

Men and Movements

THE National Coal Board have announced that **Mr. J. R. Caseley**, C.B.E., director of production, Opencast Executive is to retire at the end of October. Mr. Caseley became deputy director-general of opencast production, Ministry of Works, in 1942 and he was director of production, Ministry of Fuel and Power, when opencast mining was transferred to the Board in 1952. Mr. Caseley had been mainly responsible for sponsoring the introduction of new techniques and developing opencast mining to its present high standard of efficiency. **Mr. F. C. Baker**, at present the Executive's finance director is to become director-general, Opencast Executive as from November 1. **Mr. L. H. Clemetson** has been appointed to the Executive as director (production) and **Mr. C. H. Allen** as director (finance), both appointments to date from November 1. Mr. Caseley is being retained as consultant to the Opencast Executive.

Mr. E. A. Shipley, of British Ropes, Ltd., Doncaster, has recently been elected a Fellow of the Institution of Metallurgists. Mr. Shipley joined the company two years ago as head of research of the wire division.

Mr. J. G. Lorinson has been appointed manager of Rochester Services, Ltd., the service company for J. C. Bamford (Excavators), Ltd. He was previously assistant area manager for Leventon's of Newcastle where he was responsible for installation of new track reclamation shop at Leeds. Mr. Lorinson takes over complete responsibility for the organisation and expansion of the service and spares company for J.C.B. earth moving equipment. The company have also appointed **Mr. H. Wilson** as home sales manager. Mr. Wilson has been with the company for 10 months and was previously assistant sales manager.



J. G. LORINSON

On September 13, **Mr. R. G. S. Hoare**, M.V.O., M.B.E., will become the chief information officer of the Ministry of Pensions and National Insurance. Mr. Hoare will be succeeded in the Ministry of Transport, as chief information officer, by **Mr. F. D. Bickerton**, who is the present chief information officer in the Ministry of Pensions and National Insurance.



A presentation was made recently by **Mr. R. C. Paterson**, chairman of Berry Wiggins and Co., Ltd., to **Mr. G. E. Barker**, who has completed 40 years' service with the company. Mr. Barker still has a few more years with the company before he retires.

International Harvester Co., of Great Britain, Ltd., have announced the appointment of **Mr. R. O. Kelly** as works manager, Bradford Works, with effect from September 1. Mr. Kelly joined IH at their Doncaster Works in 1951, and was appointed general superintendent at Bradford in 1956, returning to Doncaster



R. O. KELLY

S. SONANDER

as assistant works manager in 1959. Mr. Kelly takes over from **Mr. Sven Sonander**, who after 14 years' service with IH in Britain, has accepted the post of works manager at the Norrköping Works of A. B. International Harvester Co., of Sweden.

Mr. R. H. Dent, deputy chairman and managing director of the Cape Asbestos Co., Ltd., has been elected chairman of the company's subsidiaries, Cape Insulation and Asbestos Products, Ltd., Cape Building Products, Ltd., and Marinite, Ltd. **Mr. A. T. Mendelle** has been appointed plant manager of CIAP's factory at Hart's Lane, Barking, of which **Mr. A. A. Cross** has relinquished his responsibilities as general manager. **Mr. A. G. Grant**, managing director of CIAP, has been elected chairman of Andersons Insulation Co., Ltd. **Sir Victor Sheppard**, K.C.B., has joined the board of Marinite, Ltd. He is director of research, British Shipbuilding Research Association, and a director of William Denny and Brothers, Ltd., and until 1958 was director of naval construction at the Admiralty.

Saville (Tractors), Ltd., have announced the appointment of **Mr. J. S. Pyper** as technical sales representative for International construction equipment in an area including north London, Hertfordshire, Bedfordshire and Cambridgeshire.



J. S. PYPER

Mr. N. C. Lake, deputy managing director, Head Wrightson and Co., Ltd., has been appointed chairman of the North East Regional Council of the British Institute of Management, to succeed **Mr. Bryan R. Scholes**, chairman and managing director, Heywood-Helliwell, Ltd., who now becomes a vice-chairman.

The firm of consulting engineers, Merz and McLellan, have announced that **Mr. James R. Beard** will be retiring from the partnership on December 31, but will continue his association with the firm as a consultant. **Mr. Alan E. Powell** will act as senior partner from the beginning of next year.

Among passengers embarking recently, on the "Queen Mary," for New York was **Sir Herbert Janes**, chairman of H. C. Janes, Ltd.

Mr. J. D. Slater, commercial director of A.E.C., Ltd., has left for Buenos Aires to join **Mr. R. G. Bennett**, A.E.C.'s export manager. From the Argentine Mr. Slater and Mr. Bennett will fly on to Australia, where they intend to integrate the sales activities of Thornycroft (Australia) Pty., Ltd., with those of A.E.C. (Australia) Pty., Ltd. Mr. Bennett will then be visiting Western Australia and New Zealand and Mr. Slater will return home via South Africa.

Mr. P. G. Ascough has recently joined the sales force of A.E.C., Ltd., as area manager, to work under the direction of **Mr. B. Shepherd**, manager, south-eastern region, from the Page Street, Westminster, Depot. Mr. Ascough was previously the London sales manager of Guy Motors, Ltd.

Mr. P. L. McIlmoyle, M.A. (Cantab), A.R.I.C., A.F.Inst.Pet., F.B.I.S., has been appointed assistant manager, purchasing department of Castrol, Ltd.

Mr. James Hodge, M.A., M.I.Mech.E., A.F.R.Ae.S., Member A.S.M.E., chief engineer of the Holman group, has been invited to lecture on rotary screw compressors at an International Symposium on Compressors to be held in Prague between September 6-8.

Mr. P. J. Kent, sales development manager with Blue Peter Retreads, Ltd., has left the company's service and the following staff movements have been brought into effect: Midland area manager, **Mr. B. H. T. Rowley**, becomes sales manager, earthmovers, and **Mr. C. H. Repper**, south western circuit representative, is appointed Midland area manager.

MUNICIPAL

The new deputy city surveyor at Lichfield, to succeed **Mr. J. M. Harwood**, will be **Mr. John W. Bradshaw**, at present principal assistant engineer at Swansea. Mr. Harwood takes up a new post at Liverpool in October.

Mr. Eric W. Stanley, has been appointed deputy city architect at Leeds in succession to **Mr. P. B. Haswell**, who will shortly retire.

The deputy borough surveyor at Nelson for the past four years, **Mr. O. C. Anderson**, will take up the post of deputy city engineer and deputy water engineer at Peterborough.

Mr. C. C. Gimingham, deputy county planning officer at Cambridge, will shortly take up a similar position with Buckinghamshire C.C.

The deputy city engineer at Peterborough, **Mr. A. M. Green**, has resigned to take up the appointment of city engineer at Lancaster.

Richmond (Surrey) B.C. have appointed **Mr. J. R. Blagg** deputy borough engineer and surveyor. He was previously chief assistant engineer to Brentford and Chiswick B.C.

The new county architect and planning officer to Radnorshire C.C. is **Mr. George L. Edwards**, previously senior architect on education work with Monmouthshire C.C. He succeeds **Mr. A. J. McRobbie**, who becomes county architect and planning officer with Breconshire C.C. in September.

Hereford City Council have appointed **Mr. F. Brock** city architect.

The city architect at Sheffield, **Mr. J. L. Womersley**, has been elected to the Council of the Royal Institute of British Architects.

The director of public cleansing at Westminster since 1933, **Mr. Harold Arden**, M.B.E., A.M.I.Mech.E., F.Inst.P.C., will retire next month.

Mr. K. W. Haines, M.A., A.M.I.C.E., A.M.Mun.E., chief assistant engineer at Edmonton, is leaving local government to take up an appointment with the Ministry of Transport.

FIVE-STOREY OFFICE BUILDING COMPLETED AT ENFIELD

Finance Corporation's New Headquarters

A FIVE-STOREY headquarters building recently completed at Enfield, Middx., for Tricity Finance Corporation, Ltd., takes the form of two blocks joined along their length by a link corridor. An exception is made on the fourth floor where executive offices are continuous over the link.

The building has a floor area of 40,000 sq. ft. It has a reinforced concrete frame and floors. The cladding being artificial stone mullions with metal windows and Muroglass in-fill panels with brick or block backing cill level.

Finishings generally in the office areas are acoustic tile ceilings, plastered walls and emulsion paint. Floor finishings are lino tiles in office areas with quarry tiles in toilets and thermoplastic tiling in the

The architect for the building was A. J. Fowles, F.R.I.B.A., 10 Great James Street, London, W.C.1, and the main contractors were Paterson and Dickinson, Ltd., a subsidiary of Ford and Walton, Ltd., one of the Chamberlain Group of Companies.

Sub-contractors included: The Arcanum Terrazzo and Stone Co., Ltd.—terrazzo paving to main entrance hall; W. G. Cannon and Sons, Ltd.—heating installation; E. J. Cook and Co., Ltd.—supplying and fixing reinforcement; Constable Hart, Ltd.—tarmacadam paving; H. and C. Davis and Co., Ltd.—balustrades; Faulkner Greene and Co.—glazing and muroglass; General Asphalte Co., Ltd.—asphalt roofing; J. W. Gray and Son—lightning conductors; Hine, Ltd.—scaffolding; Hammond and Champness, Ltd.—lifts; G. C. Hors-

INSTITUTION OF HIGHWAY ENGINEERS

THE following elections took place at the Institution of Highway Engineers, on July 7, 1961:—

Members

G. G. Drew (senior executive engineer, Government of Northern Nigeria); J. H. Sutcliffe (assistant county surveyor, Lancashire C.C.); A. H. Webster (engineer and agent, Wm. Tawse, Ltd.).

Associate Members

L. S. Baird (soils engineer, Whaltings Foundations, Ltd.); R. F. Coddington (senior engineering assistant, Woolwich B.C.); A. G. Coleman (engineering assistant, Bognor Regis U.D.C.); J. O. Cooper (senior assistant engineer, Swindon Corp.); M. J. Downes (engineering assistant, Devon C.C.); J. S. Fergusson (engineering assistant, Ayr C.C.); J. W. Glover (engineering assistant, Northants. C.C.); R. J. Henbest (contracts manager, L. Goodall and Sons, Ltd.); J. T. Hyslop (executive engineer, M.O.W. Northern Nigeria); N. Iyasami (assistant engineer, Government of Madras); V. Kathiravelu (engineer P.W.D., Malaya); T. W. Kenley (site civil engineer, John Laing and Son, Ltd.); B. C. D. Kermode (assistant resident engineer, Staffordshire C.C.); W. Kubala (engineering assistant, Monmouthshire C.C.); W. R. Lee (assistant engineer, Sir Alfred McAlpine and Son, Ltd.); J. C. Lindsay (assistant engineer, Inverness C.C.); E. Murdoch (engineering assistant, Banff C.C.); R. K. D. Murphie (resident engineer, Lanark C.C.); D. P. Pickup (chief engineering assistant, Newcastle-upon-Tyne City); D. L. Sharp (assistant engineer, Bristol City); R. Strang (executive engineer, Government of Ghana); J. O. Swinn (assistant engineer, Slough B.C.); R. E. Thompson (engineering assistant, Berkhamsted U.D.C.); D. Wadey (assistant civil engineer, War Office).

"SEE HOW THEY GO" NO. 12

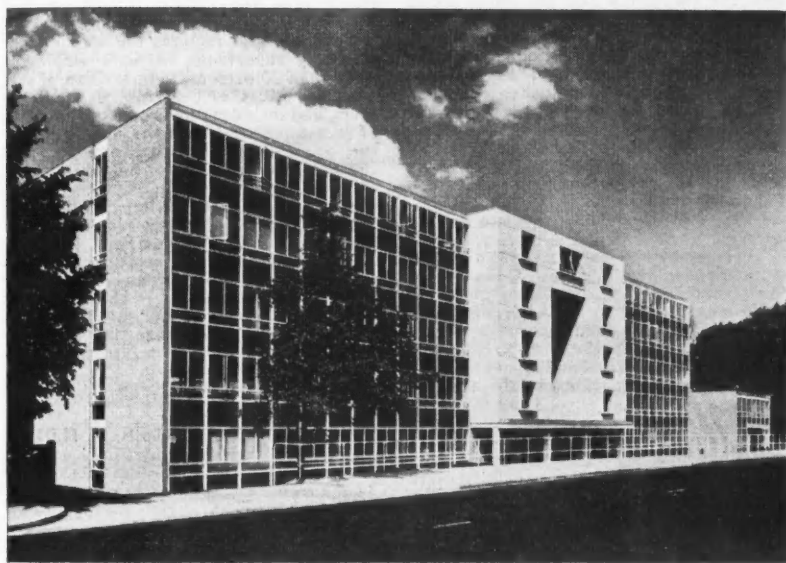
Almost £57m. . . this will be the money spent on 27 major road construction schemes started in the past six months. And roughly £40m. of it will go on three motorway projects.

The Lancashire section of the Birmingham to Preston Motorway, due to be open for traffic in June, 1963, will cost over £17m. Next most expensive, at more than £13m., is the Medway Motorway, due to be finished in April, 1963. Four months later, it is expected that the North Cheshire section of the Birmingham to Preston Motorway will be completed, at a cost of almost £10m.

Other much-needed improvements on which work has begun include the Slough By-pass, which is costing some £5m., and should be ready by April, 1963. Work on the Medway Bridge, which will be part of the Medway Motorway, commenced during the period July to December last year, and is also expected to finish at the same time.

Birmingham, Sheffield and Bristol are among the urban centres in which large-scale improvements to classified roads are now taking place—the work in Birmingham is the construction of an underpass along Coventry Road at a cost of more than £1m.

These and the remaining major projects which are costing over £100,000 each, are listed in coloured strip form in the British Road Federation's 12th chart in the series, "See How They Go." All the roads are in England and Wales; all the work commenced—except that on the Medway Bridge—during January to June, 1961.



Front elevation

canteen. The staircase is of reinforced concrete with lino tile finish on treads and Ferodo type nosings, while the main entrance hall is terrazzo paved.

One block is provided with an eight-passenger lift and the other with a 12-passenger/goods lift, serving all floors. Central heating is by low pressure hot water system from an oil-fired boiler.

Generally the office layout is based on the open plan system and socket outlets have been provided by means of floor ducts with an 8ft. x 11ft. grid. Internal telephones, G.P.O. telephones and electricity can be picked up and supplied to each desk position.

burgh and Co.—acoustic tiling; Lino Tile Co., Ltd.—lino tiles to office areas; Parkinson Wall Tiling—wall and floor tiling; Culford Art Metal Co., Ltd.—front entrance screens; Prodorite, Ltd.—Prodoglaze wall finish to toilets; L. F. Richardson, Ltd.—formwork to reinforced concrete frame; Senlac Metal Casements, Ltd.—metal windows; Thompson Bros (London), Ltd.—plastering and floor screeding; Belrock Partitions, Ltd.—partitioning; Horsley Smith and Co., Ltd.—thermo-plastic tiling; Ford and Walton's Departments—electrical installation, plumbing and painting; F. Bradford and Co., Ltd.—artificial stone, mullions and surrounds.

DESIGN CRITICISM BY CIVIC TRUST

THAT relatively few buildings today are designed as part of the town or street to which they belong, is one of the conclusions drawn by the Civic Trust, after considering the report of the assessors of their 1960 design awards.

Forty awards have been made for large schemes which contribute to the proper planning and appearance of an area, and 26 awards for small schemes involving no major building.

The number of entries was said to be disappointing, and the assessors thought that some were not worth serious attention. In some cases a good design was

spoilt by the addition of a bad feature for which the original designer was probably not responsible: an advertisement, ugly light fittings, or even poles and wires.

Entries included a wide range of houses, offices, shops, schools and churches, as well as street lighting and bus shelters.

The Trust state: "It must be inferred from the reports of assessors that much of the work carried out in county boroughs during the past three years has made no contribution to the appearance of our towns. This is a sobering thought, which it is hoped this competition will help to correct."

Obituary

It is with regret that *The Contract Journal* records the death of the following:

Mrs. L. F. Summers, aged 81, director of O. C. Summers, Ltd., public works contractors, London, N.7.

Mr. Arthur Rodd Tucker, aged 55, a director of Tucker and Sons, builders of Chatteris and Ely.

Mr. Fred Rosslyn Searancke, founder of Fred. R. Searancke, Ltd., builders, Swadlincote. He was for a number of years president of the Swadlincote Builders' Federation and a member of the council of the Midland Building Trades Employers' Federation.

Talking of Safety

by
"DRAGEE"

I HAVE already dealt at some length with the problem of the "competent person", but before I leave this subject—at least, for the present—I would like to mention a peculiar mishap with a mobile crane which was described to me by a correspondent.

It appears that contractor A, the owner of the crane, was approached by an independent contractor B on the same premises, requesting him to lend him the services of the crane and a driver for the purpose of transporting a heavy crate from the railway siding (where it had been unloaded by the occupier) to contractor B's main stores. This was agreed. The agent was notified, and he, in turn, gave the necessary instructions to the driver. At least, he gave some instructions, but either he forgot or else he simply omitted to mention that the route from the siding to the stores would pass beneath some high-tension conductor cables.

After completing the work in hand, the driver took his crane by the shortest route to the railway siding. He found the package and carefully noted the weight which was printed on one of its sides.

It was a fairly heavy load, but within the capacity of his machine when the radius of the jib was shortened. Two eyebolts were fitted and all he had to do was to attach his sling hooks and lift away. Travelling slowly and carefully, he set off along a narrow track in the direction of the other contractor's stores. He had not used this road before and presently he was surprised and somewhat perturbed to see ahead of him a line of poles supporting some power cables.

When he was near enough, he stopped the crane, then got out of the cabin to have a look. As he had feared, the cables were too low to allow the crane to pass underneath with the jib raised. On the other hand the load was too heavy for lifting safely when the jib was lowered. He pondered. . . .

There were two alternative solutions. One was to take the machine and its load back to the siding, then along the road by the embankment to the main site, then along a rough stretch of ground to the

"Dragee," who is a practising safety engineer, would welcome subjects for discussion in this column. All names of persons mentioned in these discussions are entirely fictitious. Questions of law are expressed as the author's personal opinions and are not claimed to be authoritative.—EDITOR.

delivery point. The other alternative was one which appeared to be altogether more attractive. The idea came to him when he spotted some odd lengths of steel tubing, lying by the roadside.

He climbed back into his cabin, and raised the load a few inches above the ground. Then he got down and placed three of the shorter tubes beneath the crate, and another three on the ground in front of it. The crate was laid gently on the tubes, after which he released his tackle. The next step was to lower the jib and move the crane to the opposite side of the conductors. He steered it round and edged it forward, very slowly, towards the deadly cables. He stopped.

Up to that point, the procedure had been carefully planned and executed. Nothing had been left to chance. All that remained was to run out the burden rope, pull the tackle towards the crate, attach the hooks. Then draw the load slowly on its rollers towards the crane.

Once again the driver got down, gathered up the slings, and pulled. The tackle was heavy and the crate was farther away than he had judged, so he placed a leg of the sling over each shoulder and strained forward. One sharp lunge and he would just about make it. . . . The day was warm and he was getting a trifle impatient. For one moment he forgot about the conductor wires, and that moment was his undoing.

There was a brilliant glare and a vicious detonation against his head. He fell to the ground, writhing, then lay still. . . .

He was picked up by some men who had seen the flash, and was taken to the first-aid station. Artificial respiration was applied until he was handed over to the casualty ward at the local hospital. Miraculously he was alive; burnt, shocked—but still alive.

Let me tell you the sequel at is was related to me.

When the man was well enough to make a statement he was visited by the site agent. The facts of the incident had already been deduced from the abundant evidence at the scene of the accident, and there was really only one question to be answered: how was it that such an experienced and capable driver, with a long record of good service, could suffer such a serious lapse of judgement? The reply came as a further shock to the agent. "I agree I did something stupid," he admitted. "But I've had time to think it over and

now I know what I should have done. When I moved the crane to the other side of the wire, I should have reached over with the jib and lifted the load over the top."

This only goes to show that even the most competent of persons, when faced with an unusual problem, can behave in a most incompetent manner.

NEW CONSTRUCTION SAFETY CODE NEXT YEAR

Two orders have been presented to Parliament by the Minister of Labour providing for a comprehensive code of safety regulations for the construction industry, intended to come into operation from next March.

The new code, which in the case of building operations will replace similar requirements in the Building (Safety, Health and Welfare) Regulations, 1948 is designed to protect workers employed both above and below ground in building and civil engineering. It will impose regulations for the construction use and examination of lifting appliances, lifting gear and lifting tackle used for building operations and works of engineering construction.

The code also requires the appointment of safety supervisors in firms employing more than 20 persons, the provision of safe working places and means of access to them, and includes provisions for the safety of excavations, shafts, tunnels, caissons, for the operation of vehicles, and for precautions in demolition work and a number of other matters.

Available at H.M. Stationery Office, the two orders, under the titles of Construction (General Provisions) Regulations, 1961, and Construction (Lifting Operations) Regulations, 1961, are priced respectively at 9d. and 1s. Also available is the report by Sir George Hayman, Q.C., at 3s. on the public inquiry held earlier this year into objections to the statutory drafts published last October.

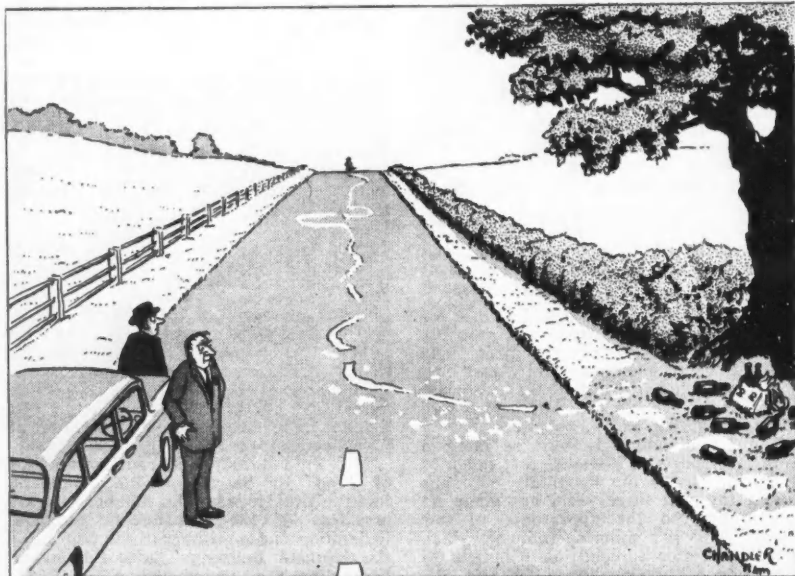
U.N.A. PIONEER GREEK BUILDING PROJECT

Need For Skilled Workers

Houses instead of ruins—this is the aim of a group of volunteers who are working at Filiates, a desperately poor village in northern Greece, close to the Albanian frontier. The team has been sent by the International Service Department of the United Nations Association. Many of the buildings in the village were damaged as a result of the fighting between the Greeks and the Albanians at the end of the last war, and families of Greek refugees from Albania are living there in shocking conditions.

The village authorities, the Greek branch of the World Council of Churches and the U.N.A. team got together several months ago and chose 10 families from the hundreds who badly need houses. The team is building 10 single-storey houses of simple design, with funds collected in Britain during World Refugee Year. So far the work is up to schedule and is well within the budget. The land was given by the Greek Department of Agriculture, most of the building materials are ready to hand and the refugee families themselves are working hard in co-operation with the U.N.A. team.

The United Nations Association say there is a great need now for skilled men. Several of the skilled members of the team are returning to their normal jobs in Britain. The refugees themselves are willing but unskilled. From now until December the urgent need is for bricklayers, plasterers, carpenters and an electrician. Board and lodging is free and grants are available for travel. Anyone who can help (for a period of at least one month) should write or telephone: International Service Department, United Nations Association, 25 Charles Street, London, W.1. (Tel. GROsvenor 2784).



HYDRAULIC PILING MACHINE FOR RAILWAY WORKS

North Eastern Region Development

A NEW type of rail-mounted all hydraulic piling machine has been put into service by the civil engineering department of the North Eastern Region, British Railways. The unit has been built to drive 8in. sq. precast reinforced concrete piles at 27ft. 6in. intervals alongside railway embankments to carry the pre-stressed concrete cable ducts being laid to carry signalling cables along much of the main line on the North Eastern Region.

Two piling units are mounted on a 46ft. long bogie bolster type of wagon at 27ft. 6in. centres.

Each unit consists of a slewing ring mounted on to the strengthened wagon frame. A box section rotating platform carries an "A" frame and is powered by a Derisine hydraulic motor type S/5. It can be rotated through 90 degrees to each side of the centre line of the wagon.

On the back end of the "A" frame is mounted a grooved winch drum also powered by a Derisine hydraulic motor

type S/5. The wire rope on this drum is used to feed the concrete piles to the leaders. Centrally on the "A" frame is mounted a winch drum driven by the same type of hydraulic motor carrying the wire rope which controls the drop hammer.

Mounted on slides at the rear end of the "A" frame is a counter-balance weight which, through a series of pulleys, is linked to the derricking action of the jib which is separately controlled by twin double-acting 3in. diameter hydraulic rams.

The main jib is of channel section construction, pin jointed to the foot of the main "A" frame. The jib head carries the main sheave over which passes the drop hammer suspension rope, twin sheaves for the pile feed rope, slides within which the leaders are extended and retracted, and lock screws operated from ground level to lock the leaders in position. Retaining hooks on the jib head hold the drop hammer at the top of the leaders when not in actual use.

The leaders, formed by 6in. by 3in. channels assembled back to back, pass through the jib head slides at their top end and

are extended to the working position and retracted to the travelling position by means of double-acting hydraulic rams.

The leaders are supported by means of sliding members which are retained by pins located in the slots and which slide within the main "A" frame on top of the rotating platform.

Sliding within the leaders, is the 1-ton drop hammer below which is located the pile helmet.

Control of Units

Each piling unit is separately controlled from a sheet metal cab located at the ends of the wagon. Within the cab there is a bank of 7 Dowty 4-way type valves controlling the various operating circuits.

The operation of the drop hammer is controlled through a 14in. diameter Croft clutch which in turn is operated by a hydraulic cylinder controlled from the cab. To ensure the wire rope connected to the hammer does not overrun when the hammer is dropped, the drum is fitted with a Lockheed operated brake band controlled from the cab by a foot pedal.

Power Unit

The main power unit is a Ruston air cooled diesel located on the wagon between the two piling units. This engine drives twin hydraulic pumps delivering 28 gallons per minute at a pressure of 1,000lbs. p.s.i. to the main motors on each unit. Two smaller hydraulic pumps, delivering 5 gallons per minute at 1,000lbs. p.s.i. provide power to the ram and slewing circuits. All the motors are interchangeable to facilitate maintenance and to cater, within the machine itself, for the eventuality of a motor failure.

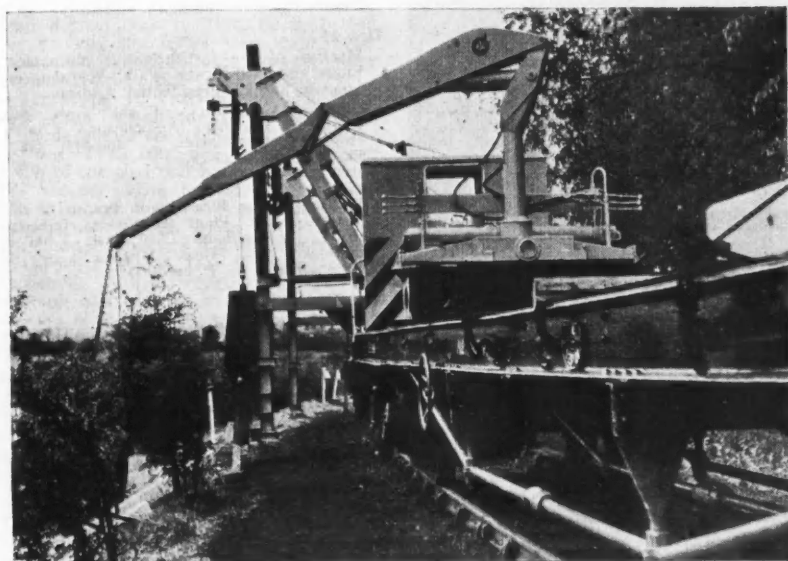
Flood lighting for night working is provided by a 1-kW. generator driven from the main engine whilst emergency lighting is provided from the 12-volt battery circuit.

Cranes

The piling unit is used in conjunction with the twin "Lorry Loader" type of hydraulic cranes specially adapted as independent power units mounted on another bogie bolster type wagon on which are carried the concrete piles to be driven.

This wagon is coupled to the piling equipment wagon and the piles are laid in position using the "Hiab" lorry loader crane units mounted at 27ft. 6in. centres on the wagon to place the piles at correct centres ahead of the piling machine.

The whole equipment is manned by a crew of eight men and piles are driven on an average at a rate of 16-20 per hour. The equipment has been developed under the direction of the Chief Civil Engineer, North Eastern Region, and constructed in the Regional Workshops at York.



Hydraulic cable duct piling machine

EXPORTS: LITTLE ENCOURAGEMENT FROM THE GOVERNMENT

IN his statement presented at the annual general meeting of the company, held in London yesterday, the chairman of Holman Brothers, Ltd., says it is a great disappointment that the Chancellor, in announcing his measures to assist the country's economy did not apparently find himself able to give any concrete assistance to exporters. On the contrary, the increase in Bank Rate is making even more costly the burden of carrying heavy stocks and granting the long-term credit associated with the export market.

Since the need to increase exports represents the greatest problem facing this country today and, indeed, is the crux of our present economic crisis, greater encouragement to export should be given to industry by the Government by direct assistance in some form or other. This is being done in other countries by concessions directly related to each company's

export business, and similar assistance in the United Kingdom would prove a real incentive to exporters.

Action, Not Words

Similar criticism comes from the chairman of Expandite, Ltd., Mr. Bertram Watson, who, in his review for the year ended April 1, 1961, states, "Those of us concerned with export get little encouragement from H.M. Government. If and when it is sufficiently courageous to translate its words of exhortation into action it will be a memorable day for this country."

REFINERY PLAN ABANDONED

Caltex (U.K.), Ltd., have abandoned their plan to build an oil refinery at Warsash, Hants.

NEW DIVISION OF HAWKER SIDDELEY

Hawker Siddeley Industries, Ltd., have formed a new engineering division which will undertake the design and construction of comprehensive engineering schemes such as electrical power schemes, harbour installations, sewage plant, automatic warehousing, etc. The division will draw on the industrial products of all the Group's factories in the U.K. and overseas.

Commenting on the formation of the new division, Sir Roy Dobson, vice-chairman and managing director of the Group, said: "By integrating the latest aviation techniques with our traditional heavy engineering skills, we can offer a new kind of industrial packaged deal, centrally planned and controlled by a single contractor. What we cannot supply from within the Group—and we expect to be as much as 90 per cent. self-sufficient on the majority of projects—we shall buy from other British companies. Some 70 per cent. of our industrial output already goes overseas, and we are confident that the new division will create opportunities for further expansion in the export market."

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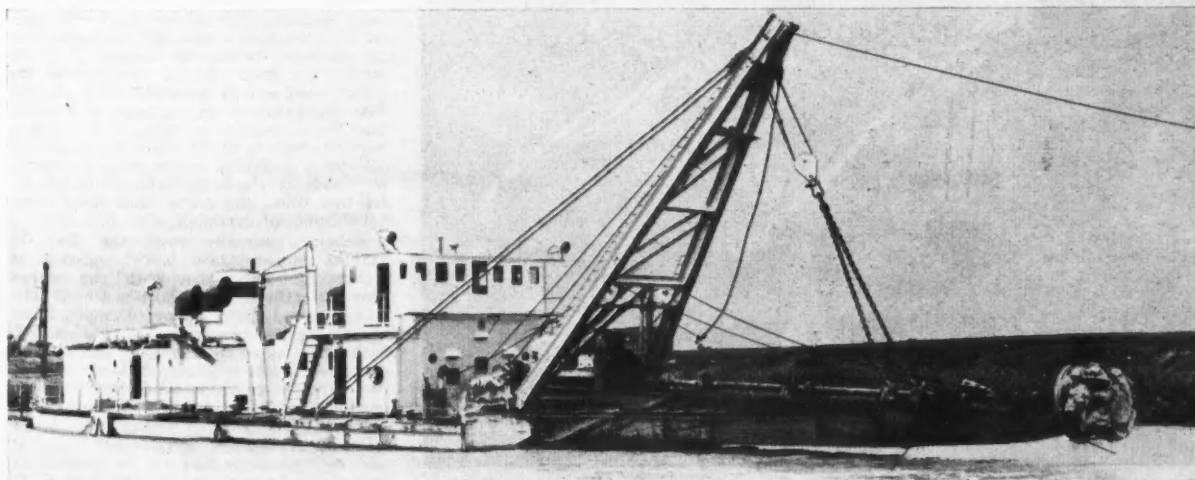
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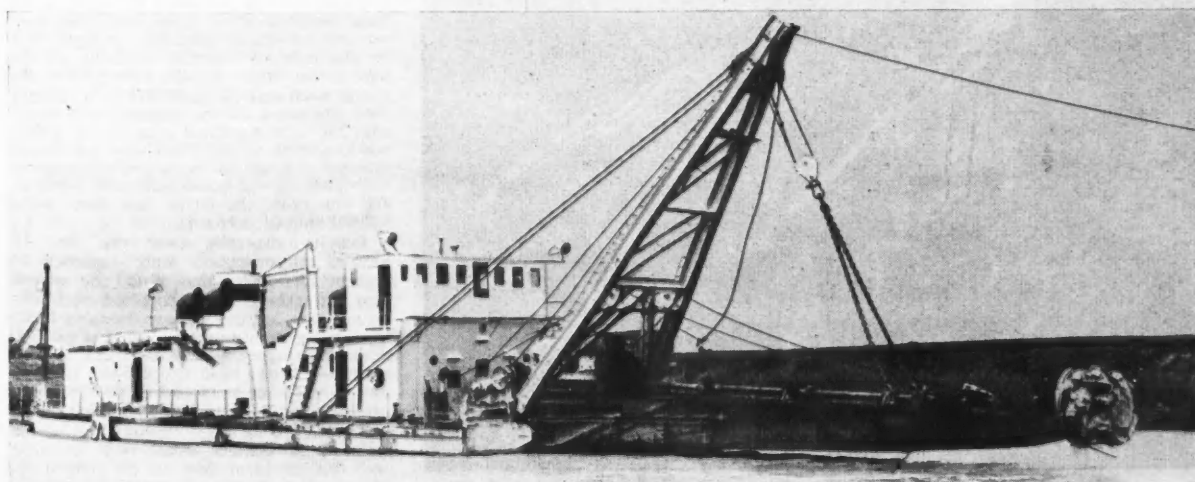
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Cutter suction dredge

1,175,000 tons of coal. The overburden comprises 10,500,000 cu. yd. of fireclay, with depths up to 120ft., and 6,500,000 cu. yd. of soft clay, with depths up to 70ft. The dredge was placed in service in 1958 and it has been estimated that it will require about five years to clear the soft mud and water from this area, which, it is expected, will add about 25 years to the life of the mine.

In order that stripping should keep ahead of coal winning, the rate of soft clay removal had to be 1,500,000 cu. yd. per annum. Allowing for a dredge working 24 hours a day, six days a week, and 60 per cent. of the possible time as actual dredging time, 4,000 dredging hours per annum was taken as the figure for design purposes. This gave the proposed dredge an output of 375 cu. yd. per dredging hour.

As the maximum depth of soft clays was 70ft., it was decided to fix the dredging depth at 30ft. below dredge pond water level, thus completing the full depth in two cuts of about 30ft. each. This, however did not work out in practice.

A non-propelling cutter-suction dredge was decided upon, the cutter being necessary because of the tough nature of the clays. The dredge material was to be pumped through 800ft. of floating pipeline and about 1,200ft. of shore pipeline over the stopbank and into the lake beyond, thus reclaiming a very large area of the lake for future farm land.

Wire rope moorings were decided upon as the method of manoeuvring, there being two forward lines, two aft lines and one head line, involving the use of a five drum winch.

A combination of straight diesel and diesel-electric was chosen as power source, the dredging pumps being diesel driven and the remainder of the machinery being driven by electricity generated by a diesel driven alternator.

The static head was planned to be 25ft. for the first cut and 55ft. for the second cut, this indicating an economy in installing two pumps, the one for the first cut to be used later in series with another for the second cut. The head conditions did not, in fact, work out as planned.

Although timber was known to exist in the lake bed, it was expected only in small quantities and the dredge pumps were not designed with large impeller passages, as would have been the case had the actual position regarding timber been appreciated.

Fleming and Ferguson, Ltd., of Glasgow, prepared the detail design of the dredge and working drawings and supplied the dredge machinery, while the hull and A-frame were built in New Zealand by A. and G. Price, Ltd., and the contractors, Downer and Co., Ltd. The discharge pipeline, floats and specials were designed

and supplied by Wm. Cable, Ltd., of Wellington, New Zealand. Fitted with a rotary cutter at the forward end, the dredge hull is rectangular in shape with square bilges and with the after end cut away to facilitate towing. The main dimensions are 91ft. long by 28ft. wide by 8ft. deep, with a draught of 5ft. in working trim. The gross working weight, including fuel and water, is 350 tons and the net weight of the hull is 100 tons.

The complete cost of the dredge was £N.Z.140,000 and the cost of the 2,000ft. of discharge pipeline with floats, bends and specials was £N.Z.25,000. The dredge was built in a dry dock adjacent to the dredging pond at Kimihia. When it was

because of the very extensive timber, stumps, logs and small pieces found at the horizon between the soft clay and the lake-bed mud, at about R.L. 126ft. to 130ft. It was, therefore, decided to dredge off as much of the lake-bed mud as possible, and this proved to be about 6ft. The dredge pond water level was then lowered to R.L. 120ft., thus exposing the old lake bottom which now consisted of about 2ft. of mud on the soft clay surface, together with an impressive array of tree stumps, logs and pieces of timber.

For this first lake-bed mud cut, the cutter was made into a rotating screen by welding a criss-cross system of steel bars to the "spiders" or spokes, giving screen



Rear ejector of Allis-Chalmers T360 disposing of spoil

ready, the dry dock was filled with water up to the level of the dredge pond, the separating bank cut away and the dredge towed out into the pond to be coupled up to the floating discharge pipeline.

To provide the return circulation water from the lake to maintain the dredge pond water level approximately constant, a water control culvert was cut into the outer stopbank. This consisted of twin 3ft. diameter Armco tubes, each 120ft. long and each fitted with steel, sliding hand-operated gate valves. They were installed with their tops 2ft. below the lowest known lake level and, under this condition, were capable of passing the maximum 12,000 g.p.m. required by the dredge. Other ancillary works and plant, including piled stagings, mooring piles, etc., were installed.

The designed dredging method was to divide the material to be dredged into two "cuts" each approximately 30ft. deep, but, in practice, this scheme was abandoned

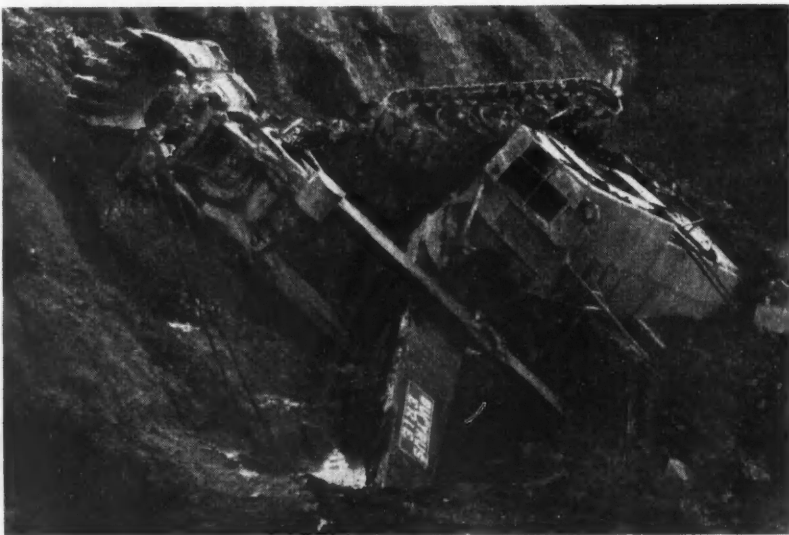
openings about 5in. square. This screen helped considerably to exclude timber from the suction pipe and pumps, but, despite all the measures taken to avoid it, the timber did cause frequent blockages of the screen, grid and pumps, while the stumps and large fallen trees formed immovable objects over which the cutter head had to be lifted. The mud flowed away easily from the discharge pipe, forming a "fan" in the lake on a very flat gradient. A lot of mud stayed in suspension in the lake water.

For the dredging of the second cut the cutter head had to be changed to a pick type head without screen. A screen was tried but it became rapidly blocked with clay and timber. This cut averaged 36ft. of which 30ft. was below the water level and 6ft. above. The clay was sometimes tough and rubbery and sometimes hard and sandy and picks were essential to produce and maintain the flow of loose material into the suction pipe.

On the eastern side of the dredge pond, in certain areas, the fireclay bottom was reached by the cutter head and, on one occasion, after a period of dredging on the hard bottom, the cutter head collapsed, with every spider sheared through close to the hub. While the dredging on the bottom no doubt caused vibration in the cutter head and cutter ladder, it is thought that the cause of the collapse was either that the cross-sectional area of the spiders was too small or that there were unrelieved stresses and strains in the original casting, with possibly also some unobserved cracks. At this time, the cutter had done some 4,000 hours of dredging.

Repairs generally over the first 18 months of operation were regarded as higher than normal. With the screen type cutter head in the lake-bed mud, unit output was 242 cu. yd. per dredging hour. In the clay, unit output was 141 cu. yd. with blade type cutter head, 219 cu. yd. with pick cutter head and 285 cu. yd. with pick type cutter head and double purchase headline.

Blockages resulting from the large amount of timber were very frequent and this problem had to be tackled by trying to remove as much timber as (Concluded on page 1068)



Result of a slip in the unstable soft clay from a 40ft. high face

International Construction**EXTENSIVE USE OF STAINLESS STEEL IN U.S. MUNICIPAL BUILDING***From a Correspondent*

A NEW \$3.5 million City Hall—featuring stainless steel framing and curtain walls—has recently been completed in Canton, Ohio, U.S.A. It is believed to be the first municipal building in America to use the metal so extensively — approximately 50,000 pounds, or 25 tons.

Basically, the City Hall comprises two

elevator machinery, window washing equipment and a police radio transmitter, are on the roof.

Rigidized stainless curtain wall is used for the building's mechanical equipment floor, the walls surrounding the open court, and for the fence enclosing the tower roof facilities. Other stainless uses include doors, windows, fasciae, soffits, elevator interiors, railings, glass back-up members for the tower's curtain wall panels, and for a mural facing the inner, "Memorial Court."

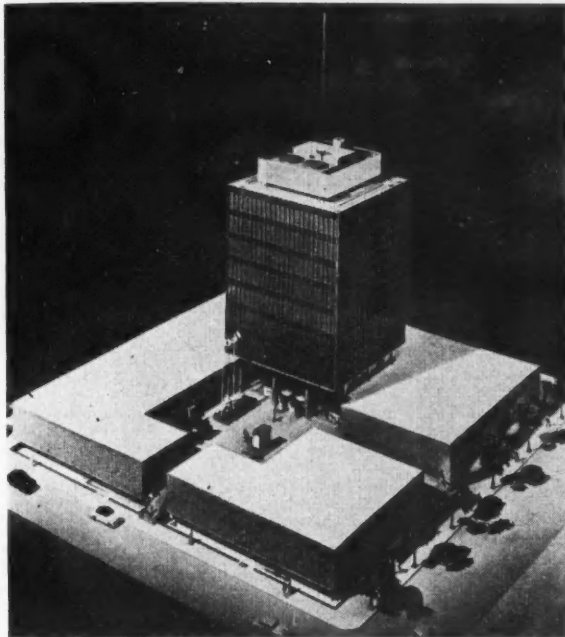
Structural tubing for the curtain wall framing is 0.120in.-thick carbon steel, 2in. by 2in., prime painted, and covered with 18-gauge stainless. The glass back-up members are also 18-gauge stainless, and glass and spandrel panel retainers are cold rolled from 0.32in. stainless. The stainless throughout is Republic Steel Corporation's Enduro Type 302, and all exposed surfaces have a No. 4 polished finish.

Wall frames are pre-assembled in one-storey high units designed to withstand a wind pressure of 25lb. p.s.i. of wall surface, with total deflection limited to 1/240 of the unsupported span. Horizontal rails are designed to support a full dead load, with a maximum vertical deflection of 1/8in.

and a maximum horizontal deflection under full wind load of 1/4in.

The rigidized, insulated curtain wall panels for the court, mechanical floor and roof tower have an exterior face of 24-gauge stainless and an interior face of 24-gauge steel with a honeycomb core. The channel frame assembly in 24-gauge aluminum steel. Specifications call for panel stiffness and strength characteristics to carry an applied load of 40lbs. p.s.i. Overall panel thickness, including the paper honeycomb core, is two inches.

Exposed surfaces of concrete columns occurring in exterior walls at the mechanical equipment floor are also sheathed in Type 302 Enduro, as are the free-standing concrete columns in the building's lobbies and Memorial Court.



A model of City Hall

base buildings surrounding an inner, open court above which rises a 116ft tower section with glass and graphite-coloured spandrel glass divided into rectilinear patterns by mullions and column sheathing of stainless steel. Outer walls of the base buildings are faced with brick and the inner walls, facing the court, stainless curtain wall.

Of the two base buildings, one holds the judicial branch of the city government; the other houses law enforcement at the street level and the legislative branch, including the city council, immediately above. The office tower provides quarters for the local government's executive branch. A mechanical floor is located at the tower's base; a cooling tower, plus

RUSH AND TOMPKINS' SWAZILAND CONTRACT

RUSH and Tompkins (Swaziland) (Pty.), Ltd., have been awarded a contract for 19 miles of road construction in Swaziland for the Public Works Department.

Valued at R381,990 (£190,995), the work is from five miles west of Bremersdorp to 14 miles east of the town. Some 40 per cent. of the road will be entirely separate from the existing road between Bremersdorp and McNabs.

The surfacing will consist of preparation of the formation by stabilising with lime or cement, a sub-basecourse also stabilised, and crushed stone basecourse. The basecourse will be obtained by quarry for which explosives will be necessary. A bituminous surface will be laid.

Work will start in September and is expected to take 15 months. The consulting engineers are Van Niekerk, Kley and Edwards, of Pretoria.

ESSEN WELDING EXHIBITION

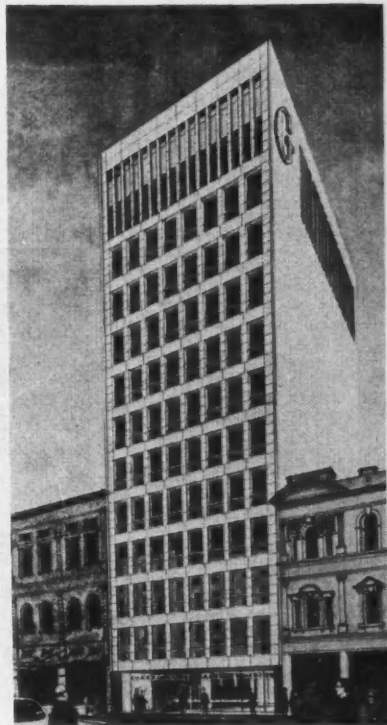
Engineers and industrialists from 34 countries will meet in Essen in September for the International Welding and Cutting Exhibition.

The catalogue for the exhibition, to be held from September 3 to 10, now includes 175 stands. Compared with the 1957 exhibition, the number of foreign exhibitors has more than doubled.

ADELAIDE OFFICES CONTRACT FOR COSTAIN GROUP

IN Adelaide, South Australia, Costain, Hansen and Yuncen (S.A.), Ltd., a member of the Costain group, are constructing a £500,000 office building for the Guardian Assurance Co., Ltd.

Scheduled for completion in September, 1962, the 13-storey building will be 155ft. high. It will be of steel frame construction.



Artist's impression of the completed building

tion erected on Sarg-type reinforced concrete footings designed to overcome the problems of differential settlement in Adelaide clays.

The front elevation is on Grenfell Street and will be faced with sandstone, toning with gunmetal anodised aluminium window frames and anti-glare glass. The building will be fully air-conditioned and served by high-speed automatic lifts. All mechanical plant will be located in a two-storey section at the top.

Architects are Cheesman, Doley, Brabham and Neighbour.

ARGENTINA ORDERS BRITISH TRUCKS

A £450,000 contract has been received from Argentina by Leyland Motors, Ltd. Placed by A. G. Pruden and Co., S.R.L., Leyland's agents in Buenos Aires, the contract calls for four-wheel Beaver and six-wheel Hippo truck chassis from the new Power-Plus series.

They will be powered by 200 h.p. diesel engines and included in their specifications will be power-assisted steering, a power-assisted clutch, and a power-assisted hand-brake. They will also have powerful air brakes and a five-speed gearbox incorporating a sixth speed overdrive for high-speed cruising.

CAIRO POWER STATION CONTRACT

English Electric Co., Ltd., have been awarded a contract worth about £E6 million for the supply and installation of plant at the South Cairo Power Station. It is reported that the contract comprises an agreement whereby English Electric will arrange for the purchase in four lots of £E4,500,000 worth of Egyptian cotton.

Trade and Company News

CLUES TO ENGINE WEAR FOUND IN OIL DROPLETS

BY burning droplets of used engine oil in an electric arc, it is possible to detect quickly abnormal engine wear rates in cars, aircraft and diesel locomotives. This technique is among those used by oil companies to check the performance of their products in service and to assist their customers in ascertaining the condition of their engines.

In order to apply this technique an instrument known as a Direct-Reading Spectrograph is employed. One of the most advanced spectrographs of this type can be found in the Central Laboratories of the Shell International Petroleum Co., Ltd., at Egham, Surrey. Costing £8,000, this instrument can detect foreign substances in lubricants in concentrations as low as one part in a million. In 20 minutes it can provide information that would take a trained analytical chemist 48 hours to produce by normal methods.

Excessive wear can be pinpointed by the presence of metal from the worn part in the engine oil. It is the detection and measurement of the rate of increase of this metal that is made easy by the spectrograph.

While the oil droplet is vaporised in the arc of the spectrograph, any metal atoms present become activated, and in this activated state they emit rays characteristic to each metal atom, which are recorded and measured electronically.

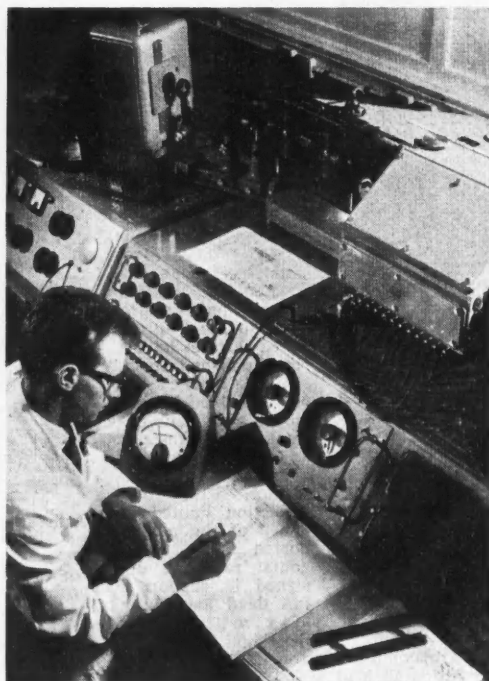
The spectrograph is automatic in operation. On the control panel are a series of illuminated signals, each one bearing the name of a different metal. When the operator presses a button, each signal lights up in turn, and at the same time the quantity of metal designated by the signal is recorded on a dial.

Any type of metal can be traced by the spectrograph as long as its selective system has been adjusted beforehand by

the laboratory staff. For instance, a bearing of a diesel locomotive engine may be plated with silver; when a sample of oil from the locomotive is being analysed, one of the illuminated signs read Ag. (for silver) and the amount of silver in the oil, which of course is an indication of the wear of the bearings, is recorded by the meter.

The spectrograph can store the information it produces and keep repeating it on demand. It can also photograph it so that a photographic record can be filed for future reference.

Shell technicians use the spectrograph to keep a continuous check on product quality as well as to analyse samples of used engine oil.



A technician notes his observations at bench of ultra-violet emission spectrograph

(Concluded from page 1066)
possible before dredging and by ordering new dredging pumps with larger impeller passages.

Removal of the timber could not be achieved with mobile land plant such as bulldozer, shovel or crane, because neither the lake-bed mud nor the soft clays would support such equipment. It was decided, therefore, to try sluicing the mud away from around the stumps and logs and to gather up all the timber onto a barge or to drag the bigger stumps and logs away to the surrounding stopbanks by means of a D8 tractor fitted with a Hyster logging winch. The floating sluicing plant used consisted of a 20ft. x 22ft. steel barge carrying two sluicing monitors with 3½in. diameter jets delivering 3,000 g.p.m. of high pressure water from a 12in. Harland pump, driven by a 120 h.p. diesel engine. This proved very satisfactory. A steel grizzly barge, with timber carry space of 14ft. x 14ft. x 5ft. was used for transporting timber from the dredging face and dumping it, under water, in areas where dredging had been finished to the fireclay level.

Another smaller factor contributing to the blockages was the very prolific growth of rushes in the lake-bed mud after the lowering of the water to R.L. 120ft. An attempt was made to kill these by spraying

with a hormone (6lb. of "Delapon," 1 gallon of "P.C.P.Q.," 1 pint of "Tenac," plus 40 gallons of water per acre). Costing £N.Z.7 15s. per acre, this treatment was partially successful.

The dredge crew consists of four on each shift: one shift boss, and one winchman, both capable of operating the dredge; one diesel engineer; and one deckhand-greaser. In addition to the three dredging crews there are six men on day shift who move mooring ropes as required and clear timber. The entire dredging operation is under the direct control of a dredgemaster.

A Set-back

Recently, hydraulic conditions set up by dredging caused two breaks in the main stopbank. This did not directly affect the coal workings, but necessitated extensive investigations and repairs costing between £N.Z.80,000 and £N.Z.90,000. Supplementary stopbanks had to be built to provide additional protection for the workings.

Experts in the study of soil stability consider that the protection works now provide an adequate margin of safety. Despite this set-back, the Kimihia opencast mine remains one of New Zealand's most important sources of coal, having produced so far 900,000 tons.

NEW BARBER-GREENE BATCH TOWER

THE Barber-Greene Co., Aurora, Ill., have introduced a new 2,000lb. asphalt batch tower, known as the Model A-8.

This is of sectional design for quick erection, and includes an automatic Batchometer asphalt metering system, Dyna-Mix pugmill, hydraulically operated pugmill discharge gate, and 3½-deck horizontal vibrating screen. The total storage capacity is 11-tons and there are four bins to meet all specifications.

The tower, a larger version of the 890-891 series of batch towers, is available with wet and dry cycle timers for automatic control of the duration of the wet and dry mixing cycles for any desired interval up to 150 seconds and semi-automatic controls which cycle the entire operation from weigh-hopper discharge through dry mixing, asphalt spray, wet mixing, and pugmill gate discharge.

A full line of plant components is available for use with the Tower, including drying equipment, fines handling and feeding equipment, and stationary and portable cold feed systems.

Although designed to operate with the 5ft. diameter model DA-50 dryer, the A-8 may be used with smaller or larger Dryer-pacs to meet unusual moisture conditions. These Dryer-Dust collector combinations are offered in 54 different combinations for either portable or stationary operation. Each is available in a selection of air flow capacities.

PYE ELECTRONIC TELEPHONE EXCHANGE

Pye Telecommunications Limited of Cambridge announce that the Pye 20-line electronic telephone exchange is now in quantity production. The exchange, which has no moving parts and is silent in operation, is the result of a four-year development programme, the last two years of which have been mainly devoted to extensive field tests under working conditions, which it is said have proved very successful.

The exchange, which is a private internal system has a wide potential application in shops, offices and factories. Since it is impervious to dust and vibration, it is suitable for installation in locations such as mills, works sites, etc., where conditions are unfavourable to mechanical exchanges.

The exchange is provided with the new British G.P.O. type instruments in colours and a novel feature, known as "Quick Dial"—each telephone dial is adjusted for double-speed, giving a very pleasing fast connection.

The exchanges are available on seven-year rental terms in addition to the more usual 14-year contracts.

Service is ensured through 30 Pye Telecommunications service stations through England, Scotland, Northern Ireland and Wales equipped with radio-controlled service vans.

BAMBERGERS ACTIVITIES

On August 21, the trading activities hitherto carried on by Bambergers, Ltd., were taken over by Bambergers (Timber and Plywood), Ltd., which is a wholly owned subsidiary company. In future Bambergers, Ltd., will be a holding company only.

The directors of Bambergers (Timber and Plywood), Ltd., are C. D. Woodburn-Bamberger (chairman), R. S. Annan and L. A. Woodburn-Bamberger (joint managing directors), E. A. Godfrey, E. M. Hodson, A. Galler, A. W. Bath and G. E. Ward.

The following have been appointed executive directors of Bambergers (Timber and Plywood), Ltd.: E. N. Bellows, A. Easterfield, A. W. Holdom and A. A. Drinkwater.

The local directors of Bambergers, Ltd., have relinquished their appointments.

Trade and Company News

GREENHAM OPEN NEW GRAVEL PLANT AT STAINES

Blending and Grading Feature

A NEW gravel extraction plant having a capacity of 80 cu. yd. an hour has been opened by Greenham Sand and Ballast Co., Ltd., at Chertsey Lane, Staines. Incorporating the latest push-button controls, the plant features what is believed to be the most up-to-date sand and gravel blending and grading system in the country.

Care has been taken by means of landscaping to fit the plant into the local scene, chutework and machinery is rubber lined wherever possible to reduce noise and when the initial area of five acres is worked, it is intended to start filling in as soon as conditions permit. The landscaping includes a screen of flowering trees in the area of the Chertsey Lane entrance, while pale jade green has been selected as the main colour scheme for the plant, which is being visited this week by trade and civic guests.

All units on the plant are controlled from a central plant switchroom, with the exception of the clean water pump and crusher, controlled from their locations.

Appreciation of the importance to the contractor producing quality concrete of the need for consistent and "tight" grading of aggregates has been the primary concern in the design and layout of the new plant, which produces top quality aggregates consistently graded to meet all B.S. specifications. In order to ensure cleanliness, although the material passes through two 8 in. gravel pumps during processing, a high-speed Scrub Mill has been installed. This deals with the occasional clay seams in the natural material and removes any clay left behind during uncovering operations (in some areas the overburden extends below the water table). The mill can be by-passed when the natural material is clean.

Aggregates are stored in single sizes for re-blending and a further feature is the insistence on a consistent and "loose" nature of sand before delivery to the sand blenders, achieved by dewatering the sand in one of two drainage bins and, when it is sufficiently "dry", passing it by conveyor to the blender storage bin. This process loosens up the compaction which occurs during drainage.

The deposit being worked is flood-plain gravel associated with the River Thames, of the "Flint" type and known for its strength and general high quality. There is an average depth of sand and gravel of approximately 16ft., with about 4ft. of overburden, the water table being about 3ft. 6in. below the surface level.

Extraction and Delivery to Plant

Sand and gravel is pumped from the working face by a Gwynnes 8 in. gravel pump, which is mounted inside a floating steel pontoon unit and driven by a Dorman 6 Q.A. diesel engine. Also mounted inside the pontoon is a diesel-driven winch for raising and lowering the suction pipe.

During the early stages of production, the material is pumped direct along an 8 in. bore pipeline to the boiling box before flowing on to the primary screen. Later on, when a sufficiently large lake has been excavated, the material from the gravel pump at the face will be discharged into barges and hauled to a barge unloading unit moored alongside the plant. Here another 8 in. Gwynnes gravel pump will empty the barges and pump the material along a short 8 in. pipeline to the boiling box.

Gravel Section

From the boiling box the material is discharged on to the primary screen (Niagara 10ft. by 5ft. double-deck vibrating

type). The material rejected by the top deck (+ 1½ in.) is carried by conveyor No. 1 to a 50yd. capacity storage hopper for loading into lorries. The -1½ in. aggregate is retained by the bottom deck and can be fed to a 15 cu. yd. surge hopper when clean or to a 5ft. diameter Parker Scrub Mill when dirty. This high speed mill effectively deals with any clay particles and the clean material is then discharged from either the surge hopper or the scrub mill on to conveyor No. 2, which takes it to the secondary screen (Niagara 10ft. by 5ft. three-deck vibrating type) which is mounted on top of the storage and blending bins. The -1½ in. + ¾ in. material is retained by the top deck and is discharged by a chute to the -1½ in. bin.

The -¾ in. + ¼ in. material is retained by the second deck and discharged by chute to the -¾ in. bin and the -¼ in. + ⅛ in. material is retained by the bottom

Sheepbridge Kennedy No. 25 Short Head Cone Crusher.

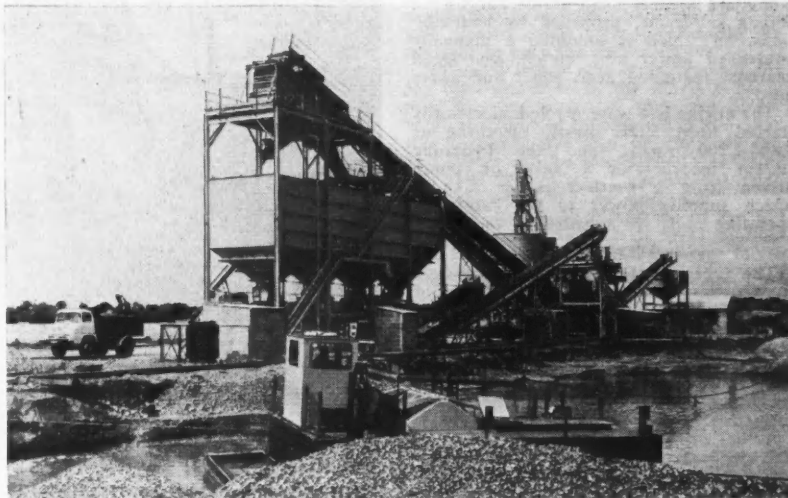
This crusher is set to produce -¾ in. material and is in closed circuit, the crushed material being carried by an inclined conveyor to an 8ft. 6in. by 4ft. single-deck "Gyrex" vibrating screen equipped with water sprays.

The -¾ in. + ⅛ in. crushed material is retained and delivered by chute on to conveyor No. 4 carrying the -1½ in. + ¾ in. natural material to the secondary screen.

The -¾ in. crushed sand is washed through the screen by the spray water, flowing to the static settling cone already receiving the natural sand from the primary screen and is pumped with the natural sand to the sand drainage bins.

Blending Section

Under each of the gravel storage and blending bins is mounted a Parker Variable Speed Blender and under the sand blending bin, a Parker Variable Speed Sand Feeder. These all feed on to a horizontal conveyor, No. 5, in turn feeding on to an inclined conveyor, No. 6, which delivers the blended material, or single size material, to a lorry loading station for discharge direct to the lorries. Conveyor No. 5 is reversible to enable the company, if desired in the future, to add further



General view of the new gravel plant

deck and discharged by chute into the -¾ in. bin.

For final rinsing of the material, water sprays are incorporated, the water passing through the bottom deck and is flumed to the side of the plant.

Sand Section

The sand (-¾ in.) and water passing through the bottom deck of the primary screen flows to a static settling cone where the silt and dirty water passes over the weir and is returned to the pit. A 6 in. Linatex sand pump extracts sand and water from the bottom of the static cone and delivers the mixture via a 6 in. bore pipeline to a 24 in. Linatex Separator mounted on a tower on top of two sand drainage bins.

Concreting sand containing approximately 20 per cent. water is discharged from the underflow box of the separator and is directed by Linatex lined chutes to one or other of these 100 cu. yd. capacity circular sand drainage bins. Whilst one bin is being filled the sand in the other is draining. Under each of the drainage bins is a belt feeder which is used to draw out the drained sand and feed it to conveyor No. 3, which takes the drained sand to the 100 cu. yd. capacity sand blending bin.

Crushing Section

Provision is made for the -1½ in. + ¾ in. material to be drawn from the -1½ in. storage and blending bin and fed to a

storage for blended or single-size aggregates at the end of the plant.

All blenders and the two conveyors are controlled from a panel in the ticket office. Any British Standard Specification grading of material can be set up on the panel, and these can be changed from load to load by hand dials on the panel controlling the speed of the blenders.

At all times during the period of blending and loading the correct percentage of ingredients as specified is delivered to the lorry. Even the effect of the distance apart of the four blenders is allowed for by the timed sequence of starting when two or more blenders are in operation.

Each individual blender is calibrated to deliver 2 cu. yd. per minute.

It is possible, when two or more blenders are working together, by setting the blender delivering the largest percentage of the mix to maximum, and the other blenders proportionately, to achieve a greatly increased rate of loading. For example, 7 cu. yd. of 1½ in. ballast is loaded in 2 minutes 1 second.

Single sizes can, if necessary be delivered direct from bins to lorry.

The plant was manufactured by Frederick Parker, Ltd., of Leicester, to a basic design and layout by Mr. G. S. Phimister, technical director of Greenham Sand and Ballast. The sand section is by Wilkinson Rubber Linatex, Ltd., and the electrical installation by F. Lawrence and Co. (Feltham), Ltd.

Trade and Company News

U.S. EARTH BORER OPERATES FOR FIRST TIME IN BRITAIN

Sewer Installed Under Railway Line

FOLLOWING its introduction into this country at the 1961 International Construction Equipment Exhibition, the Taylor-Salem earth borer and pipe pusher, an American machine new being manufactured here under licence by F. Taylor and Sons (Manchester), Ltd., Salford, Lancs., was demonstrated last week operating on its first British contract.

The machine, a model 16TD earth borer, was used in connection with a sewerage scheme being carried out for Gipping (Suffolk) R.D.C. in the Claydon and Great Blakenham areas, and enabled the contractors to install the sewer beneath the main London-Norwich railway line without hindrance to rail traffic.

Designed to simultaneously drill a hole and install pipe beneath embankments, roads, railways, canals or floors, the borer comprises a steel main frame carrying a sliding sub-frame, propelled by hydraulic rams, on which is mounted a manually controlled power unit, clutch, four-speed gearbox, reduction gear, auger and auger head.

The engine is a water-cooled, electrically started Ford 592E diesel, operating at 1,800-2,200 r.p.m., and the hydraulic system incorporates a gear-type pump driven from a gearbox power take-off which supplies power to the sub-frame operating rams via a hydraulic valve.

Auger Heads

The auger is a 6ft. section of alloy steel construction, comprising flighting of spiral pitch double-welded to a tubular shaft. Augers are joined by male and female square coupling shanks welded to the shaft, and quick-release pin locks. A variety of auger heads is available catering for different ground conditions and bore sizes.

Actual drilling rate is in the region of 30ft. per hour under average conditions of packed clay or loam. This is for a drilled hole without sleeving, but where the hole is cased or sleeved the drilling speed can be increased.

The borer is capable of dealing with harder formations such as coal, sandstone, limestone, and similar rock formations, at varying speeds from 4in. to 6in. per minute,

depending upon the material, cutting head, and drilling experience of the operators.

Casings to protect the tunnel from subsidence are welded section by section as they are assembled on the machine before being hydraulically pressed home. The length is determined by the travel of the sliding carriage, which is 8ft. This allows a minimum of 1ft. at each end of the casing to couple up the following auger.

General Operation

In general practice the machine operates in a small trench dug to the depth at



At the face, the pipe being pushed through the embankment

which the pipe is to be laid. The borer is placed in the trench and levelled-up, and the auger head and first auger section are lowered onto the carriage together with the first pipe casing section—if a casing is to be used. The auger is coupled and fastened, and the machine is then set in

motion, turning the auger through reduction gearing from the diesel engine, and pushing the casing or pipe by hydraulic rams. When the pipe and auger are within a foot of disappearing the machine is stopped, the auger uncoupled and the machine retracted simply by reversing the hydraulic rams. Another auger and pipe section is placed onto the machine, the new auger section connected to the old one and to the machine, and the pipe lined up and welded around the complete seam. Boring and pushing operations are recommenced and continued in identical manner until break-through is achieved.

When this stage is reached the auger can be retracted, section by section, by reversing the boring procedure. For this purpose retractable auger heads are available which automatically collapse when the auger is pulled back through the casing. Alternatively the fixed type of head is removed before the augers are retracted.

At Claydon, where the 16TD earth borer was in use, it simultaneously bored a 14in. hole and installed a 2in.-thick steel casing for a distance of 28ft. under the railway line, enabling sewers to be joined on opposite sides of the line.

In spite of the fact that this two-way track daily carries at least 166 passenger and freight trains, rail traffic was unhindered. The entire boring operation, which was accomplished in under six hours, and subsequent sewer installation in no way disturbed the top surface. Consequently, there was no need to impose the speed restrictions which inevitably occur when conventional excavation methods are employed.

Lemon and Blizard, London, S.W.1. are the consulting engineers for the £100,000 sewerage scheme, and the main contractors are Biggs, Wall and Co., Ltd., London, N.10. The machine was operated by the manufacturers, F. Taylor and Sons (Manchester), Ltd., who were acting as sub-contractors.

Statistics of Borer

Overall length (model 16TD), 14ft. 2½in.; (model 24TD), 15ft. 9in.; overall width, 3ft.; 4ft. 4in.; overall height, 6ft. 3in.; 6ft. 6in.; weight, 4,150lb.; 7,400lb.; fuel tank capacity, 14gal.; 14gal.; hydraulic oil tank capacity, 19gal.; 50gal.; sub-frame travel, 8ft.; 8ft.; sub-frame travel speed, 0-40ft. per minute; 0-6ft 6in. per minute; maximum forward thrust, 6,000lb.; 30,000lb.; maximum auger torque, 6,500ft./lb.; 6,500ft./lb.; auger diameters 6in.-16in.; 18in.-24in.

CEMENT-PAINTED SURFACES DECORATION

Designed for use on surfaces previously coated with cement paint, a new paint, Pitan Limelight No. 1, has been developed by Allweather Paints, Ltd., 36 Great Queen Street, London, W.C.2.

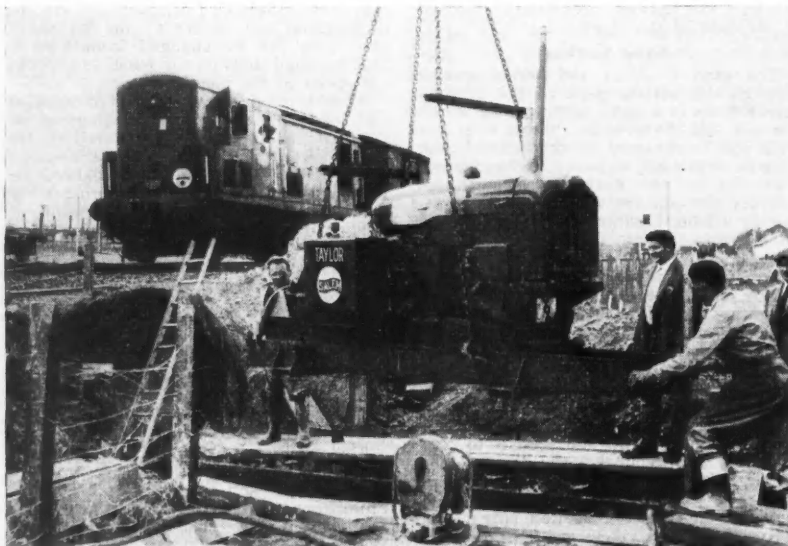
The product is a complete paint system in two coats and is for use on new or old cement rendering, concrete, brickwork, roughcast, stucco, stonework, asbestos cement sheets, etc. previously treated with a cement paint.

It is intended solely for outside use and, claim the manufacturers, has outstanding resistance to weathering, is washable and possesses excellent surface hardness and abrasion resistance.

£160,000 ENGINE ORDERS SECURED BY A.E.C.

Orders for high-speed diesel engines and accessories for industrial and automotive applications valued at more than £160,000 have been received by A.E.C. Ltd.

Included amongst the orders is a £125,000 contract from Steels Engineering Products, Ltd., Sunderland which calls for 80 engines and gearbox assemblies of various types, front axles and auxiliary gearboxes. These units will be installed in Coles mobile crane carrier chassis.



The earth borer being hoisted into the trench prior to work beginning

Trade and Company News**BACK DIGGER EXTENDS VERSATILITY OF
FIAT FL.4 LOADER****New Equipment Now Available**

A NEW Back Digger can now be supplied as additional equipment for the Fiat FL.4 40 horsepower Front End Loader, announce Mackay Industrial Equipment, Ltd., Faggs Road, Feltham, Middlesex.

The hydraulically operated digger is fitted at the rear of the tractor in place of the ripper and the two equipments can be exchanged in 90 minutes. The method of removing the digger is by lowering the

hydraulic stabilisers and the boom to ground level, removing four quick release lynch pins and two self-sealing hydraulic couplings. The units are then detached, the time taken for this operation, it is stated, being approximately five minutes.

The new digger has been designed for maximum adaptability for all types of trenching, digging and dredging. The wide main frame is fitted with two hydraulically operated stabiliser feet which support the entire unit during work but are rapidly

retractable for movement of the tractor. They have the additional function of raising the entire main frame and unit from operating position to travelling position at the completion of the job.

The main frame provides three positions for the digging unit central, right side and left side, so that trenching adjacent to existing masonry is possible and foundation trenches can be completed without risk of damage to previous work.

The boom and dipper stick have a combined reach of 13ft. 8in. from the slewing pivot and can rotate through 185 degrees when mounted at the centre of the main frame or 200 degrees when mounted at the side. The maximum digging depth is 12ft. The maximum height for face quarrying is 10ft. 2in. above ground level.

The standard bucket width is 24in., but buckets of 36in. and 12in. width are also available for different types of work and soil.

The operator's seat and controls are mounted centrally and slew with the digger. Of the six small control levers two, operating the right and left stabiliser feet, are noticeably short. The remaining four levers control the dipper stick and bucket, using the right hand, and the boom height and slewing motion using the left hand. The operator can reach the tractor gear levers without leaving his seat so that the retraction of the stabilisers and movement of the tractor to a new position occupy the minimum of time. On side slopes of up to 10ft. the hydraulic stabilisers enable the operator to keep the digger vertical.

When the digger is to be transported for any distance, or when the shovel is being used for any length of time the digger boom is supported by connecting two links which relieve the load on the cylinder. The digger can be transported when side mounted by slewing it against the main frame to which it is secured.

The hydraulic couplings are of the self sealing type to avoid loss of hydraulic fluid and entry of air when the digger is removed from the tractor.

The equipment is of "all welded" construction, the main tubular members being formed of channels welded flange to flange.



FL.4 fitted with back digger

HYDRAULIC LORRY CRANE WITH TELESCOPIC BOOM**Colchester Firm Appointed Concessionaires**

Appointment as concessionaires for the Tico hydraulic lorry crane is announced by Colchester Tillage, Ltd., Hythe Hill, Colchester.

This crane has a power driven winch, holding 131ft. of cable, incorporated in the boom to enable loads to be hauled in from inaccessible sites or pulled up a loading ramp. By the same means goods can be raised from or lowered into deep excavations.

The boom can be swung through 360 degrees continuously in either direction and can be raised to an almost vertical position 23ft. above ground level. An anchor rod ensures that the boom action is under control at all times.

A single lever on either side of the truck controls all the operations and the crane is instantly locked as soon as the lever is placed in neutral. The telescopic boom is power retracted and gives a variety of loading lengths from 4ft. 3in.

to 13ft., with capacities of 2,500lb. at 7ft., 1,700lb. at 11ft. and 1,300lb. at 13ft.

The crane is clamped centrally on the lorry chassis, power being provided by a simple hydraulic pump driven by the lorry power take-off. It requires only 12½in. between cab and body so that the payload area is not reduced. The cost of the crane is £450.



Tico hydraulic lorry crane

**DENSITY AND MOISTURE
SURFACE METER**

A combined density and moisture surface meter for use in engineering laboratories, is one of many instruments illustrated in a catalogue just issued by Engineering Laboratory Equipment, Ltd.

This instrument has a particular application in the construction of roads, airfields and earthdams, where it is necessary to know the dry density of the layers of materials to the compacted. The main feature of the apparatus is that a single operator can determine the in-situ dry density to an accuracy of 1.5 per cent. in less than five minutes.

The catalogue comprises eight sections, covering such subjects as soils, concrete and powders. There are sections also on mobile laboratories for use on sites by building and civil engineering contractors and public authorities. It is available from the company's sales offices at 285, Ealing Road, Alperton, Wembley, Middx.

SGB/HICO AGREEMENT

An agreement has been concluded between Scaffolding (Great Britain), Ltd. and HICO Export A.G. of Zurich, whereby the British company is now the sole licensee for the manufacture and marketing of the full range of HICO centering equipment in Great Britain, N. Ireland, Eire, Argentina, Australia, Federation of Rhodesia, Ghana, Kenya, Pakistan, Mauritius, New Zealand, Sierra Leone, Turkey and the Republic of South Africa.

SGB have also become sole manufacturers of Blaw Knox shuttering equipment, under an agreement signed with Blaw Knox, Ltd.

Trade and Company News

NEW COMPANIES

The undermentioned particulars of new companies recently registered are taken from the daily register compiled by Jordan and Sons, Ltd., company registration agents, 116 Chancery Lane, London, W.C.2:—

Wandlebank Construction Co., Ltd., 1 Fitzroy Square, W.1, civil engineers. £100. Directors: John T. Cox, 13 Riverside Close, Wallington; Percival F. Pittman, 118 New Park Road, S.W.2.

H. and M. Builders (Guildford), Ltd., Wharf Road, Guildford, Surrey. £100. Directors: Richard D. Hosking, Trelawney, Levylsden, Merrow, Guildford, Surrey; Richard D. Moorwood, Queens Lane, Shamley Green, Surrey; Stanley J. D. Moorwood, 17 Osbaldeston Gardens, Kenton, Newcastle upon Tyne, 3.

M. Reay (Ponteland), Ltd., 11 Archbold Terrace, Jesmond, Newcastle upon Tyne, civil engineering, building and public works contractors. £100. Director: Michael Reay, 6 Higham Dykes, Ponteland, Newcastle upon Tyne.

Roberts and Moss, 1 Fearnville Place, Leeds, 8, builders. £500. Directors: Edward Moss, 65 Farm Hill, Leeds, 7; Tom Roberts, 1 Fearnville Place, Leeds, 8.

Tom Hanson and Sons (Hucknall), Ltd., 135 Beadall Street, Hucknall, Notts., builders. £2,000. Directors: Thomas Hanson, Chaworth House Farm, Watnall, Notts.; Wm. P. Hanson, 9 Hanson Crescent, Hucknall; Sophia Hanson and Michael J. Hanson.

Philip Easton Building Co., Ltd., 150 Cheapside, E.C.2. £100. Directors: Joseph F. Kearney, 46 St. Augustines Road, N.W.1; Phillip E. Laffer, 47 Sandringham Court, W.9.

South Thames Hydraulic Plant, Ltd., plant hire specialists. £100. Directors: Ivor G. Paul and Peggy M. Paul, 8 Willersley Avenue, Orpington.

System VI Construction Co., Ltd., 4 Tuesday Market Place, King's Lynn, civil engineering, building and public works contractors. £1,000. Director: George W. Guest, Seafield, Lockinver, Sutherland.

William Hackett (Builders), Ltd., 68 Halton Ring Road, Leeds, 15. £5,000. Directors: William Hackett and Mrs. A. Hackett, 68 Halton Ring Road, Leeds, 15.

Allied Building and Land Ltd., 20 Station Road, Edgware, Middx. £5,000. Directors: Derek H. Hampshire, 16 Coombe Gardens, S.W.; Michael Brown, 27 Birchwood Court, Edgware, Middx.

Albert Wright (Builders), Ltd., Higher-town, Truro. £5,000. Permanent directors:

Albert E. Wright and Hilda B. Wright, 20 Tresawls Road, Truro.

Tooze and Davies, Ltd., offices of Charles Fenton and Co., 10-16 Park Street, Bristol, 1, builders and decorators. £1,000. Directors: Walter R. Tooze, 224 Station Road, Henbury, Bristol; Leonard Davies, 39 Eastland Avenue, Thornbury, Glos.

R. and G. Eldridge (Excavations), Ltd., Holywell Works, Holywell Road, Watford, Herts. £1,000. Directors: Ralph T. Eldridge, 43 The Gardens, Watford, Herts.; Norman R. Eldridge, Greenways, Orchard Close, Watford, Herts.

Curnow Plant Hire Co., Ltd., 9 Marlborough Place, Brighton, 1. £100. Directors: Ronald C. W. Huggett, 46 Arundel Street, Brighton; Robert P. Huggett, 45 Arundel Street, Brighton; Melvin W. Curnow, 80 Plymouth Avenue, Lower Bevendean, Brighton.

Griffin Purification, Ltd., systems of sewage treatment and disposal. £1,000. Directors: Joseph D. Griffin and Sylvia C. Griffin, 3 Les Dauphins, Boulevard du Ténac, Monte Carlo, Monaco.

A. J. Robinson (Builders), Ltd., 24 Tufton Street, Ashford, Kent. £100. Director: Antony J. Robinson, 52 Woodlea Road, Worthing.

F. Meeks and Son (Builders), Ltd. £500. Directors: Frank Meeks and Brian Meeks, 9 Coniston Avenue, Perivale, Greenford.

Star Cranes, Ltd., 72 Brighton Road, Horsham, Sussex. £10,000. Directors: Albert W. Hobbs, Hilltop, Rowhook, Sussex; George F. Fitzpatrick, Hilgriss, The Birches, Mannings Heath, Sussex.

G. Masters and Sons, Ltd., 6 The Mead, Ilchester, Som., builders. £15,000. Directors: Lyndle Arthur Masters, 6 The Mead, Ilchester, Som.; Gerald Masters, 10 Limington Road, Ilchester; Henry G. Masters and Gerald Masters, Junr.

H. and R. Wylie, Ltd., Castle Bank, Morpeth, building contractors. £10,000. Permanent directors: Hylton Wylie, 27 Middlegate, Loansdean, Morpeth; Richard Wylie, 8 Central Avenue, North Shields.

F. E. Mutter, Ltd., Purbeck, Star Hill, Woking, builders. £5,000. Directors: Fredk. E. Mutter and Mrs. Margaret E. Mutter, Purbeck, Star Hill, Woking.

B. K. Jackson and Son, Ltd., builders. £7,500. Director: Kenneth B. Jackson, 208 Lichfield Road, Little Bloxwich, Staffs. Subscriber: Mrs. E. M. Sanders, 395 Sutton Road, Walsall.

P. A. Kent (Plant Hire), Ltd., 116 Long Acre (Second Floor), W.C.2. £100. Directors: Percival A. Kent and Jessie E. Kent, 4 Heath Court, Heath Road, Brixham.

TRADE NEWS IN BRIEF

A new depot has been established by Henry Sykes, Ltd., at Studd Green Works, Elworth, Sandbach, Cheshire, for the sale, hire and servicing of their range of pumps, winches and pile driving equipment. Tel: Sandbach 986.

The name of Flexpipe, Ltd., a subsidiary company of The Bowater Paper Corporation, Ltd., has been changed to Bowater Flexpipe, Ltd.

Taskers of Andover (1932), Ltd., have announced reductions in the prices of their standard straight frame semitrailers fitted with automatic D.S. couplings. Prices are lower by £40 to £100 per trailer.

New leaflets published by Gwynnes Pumps, Ltd., 62 Chancellors Road, London, W.6, describe their new ranges of double-entry split casing pumps and D.B. Comet single-entry pumps.

Copperad, Ltd., announce that their Scottish office has been changed from 30 Rutland Square, Edinburgh, 1, to 247 Bath Street, Glasgow, C.2 (Tel.: Glasgow Central 0678).

A new leaflet concerning their timber-clad prefabricated buildings has been published by Middlesex Prefabricated Buildings, Ltd., Green Lane, Hounslow, Middlesex.

Head Wrightson and Co., Ltd., have issued a booklet which gives details of the range of activities of Head Wrightson Stockton, Ltd., who specialise in the design and manufacture of equipment for chemical plants and iron and steel works.

Greenham Tool Co., Ltd., 618 London Road, Isleworth, have published a brochure giving details of the Star Selfdrill shields, for which they are the sole agents in the United Kingdom.

Furnascote refractory coatings, formerly manufactured and marketed by Corrosion, Ltd., Southampton, will in future be manufactured and marketed by Furnascote, Ltd., 16/18 Malvern Road, Southampton (Tel.: Southampton 71347).

A new commercial lighting catalogue illustrating a larger range of opal glass type fittings for use with Mazda G.L.S. lamps has been received from A.E.I. Lamp and Lighting Co., Ltd., 44 Fitzroy Road, London, N.W.1.

J. H. Sankey and Son, Ltd., have announced reductions of between 12½ and 20 per cent. in the prices of three grades of Sisalcraft reinforced waterproof building papers.

C. H. Johnson (Machinery), Ltd., announce the appointment of Wheatley and Whiteley, 99 Kirkstall Road, Leeds, 3, as spares and service agents for the Yorkshire area.

Henry Boot and Sons (Plant), Ltd., have opened a new department for the hire and erection of scaffolding and shuttering from their Dronfield Depot, near Sheffield.

The Midlands Divisional office of Dictograph Telephones, Ltd., is now at Kayaness House, Blucher Street, Birmingham, 1. Tel.: MID. 5163/4.

Tower Cranes, Ltd., have moved from Victoria Street, London, S.W.1, to Tower-cranes Centre, 51 David's Road, Forest Hill, London, S.E.23. Tel.: Forest Hill 9244.

COMPANY RESULTS

Wilson Lovatt and Sons, Ltd.—Trading loss for 1960, £8,726 (£315,100 profit). Net loss £232,566 (£111,772 profit). No dividend (10 per cent.).

Austins of East Ham, Ltd.—Group trading profit for the year ended March 31, 1961, £416,925 (£352,757). Profit after tax, etc., £151,337 (£137,124).

Final dividend 12½ per cent. plus one per cent.—one—capital distribution, making a total of 20 per cent. plus one per cent.

Magent Joinery, Ltd.—Group net profit for the year ended February 28, 1961 £314,575 (£274,481). Tax for year £158,750 (£130,750). Recommended final ordinary dividend 17½ per cent., making 30 per cent. for the year.

Sydney Green and Sons (Contractors), Ltd.—Net group profit for the year ended March 31, 1961, £90,599 (£76,659). Recommended ordinary dividend 25 per cent. (same).

Robert M. Douglas (Contractors), Ltd.—Group trading profits for the year ended March 31, 1961, £716,284 (£416,458). Net profit, after tax, etc., £217,885 (£234,804). Ordinary dividend 25 per cent. (same).

Gabriel Wade and English, Ltd.—Group profits for 1960-61, £369,298 (£351,019). Net profit after tax, etc., £186,192 (£175,069). Final dividend 7½ per cent., making 11½ per cent. for the year (same).

Burt, Boulton and Haywood, Ltd.—Group net profit for the year ended March 31, 1961, £398,097 (£148,218), after tax of £201,649 (£157,661). Ordinary dividend 16 per cent. (10 per cent.).



A new showroom devoted exclusively to contractors' plant has recently been completed for William G. Search, Ltd., Leeds. To celebrate the occasion, the company gave a cocktail party for over 100 representatives from the building industry and from various contractors' plant manufacturers.

Current Constructional Activities

PROJECTS • CONTRACTS • AWARDS

THIS editorial feature provides readers with a comprehensive news service covering forthcoming private and public construction work. Commencing on this page information is given concerning future projects followed by details of tenders being invited. In the third section will be found news of tenders recommended for acceptance, tenders accepted and contracts awarded. Attention is also drawn to the advertisements covering contracts and appointments appearing in the front part of the *Journal*.

BUILDING AND DECORATING (See also Housing Schemes)

Ashington, Northumb.—U.D.C. to build a small shopping centre to serve the Green Lane housing estate. Plans are to be prepared. It is expected that the work will be carried out by direct labour.

It is hoped to commence work in October on the erection of offices and factory for Benson Bond and P.M.T., Ltd., J. F. Pillios and Associates, 36 New Street, West Bromwich, are the architects, and T. Barneveld, structural consultant, for the scheme. Estimated cost £20,000.

Barrow-upon-Soar, Leics.—R.D.C. have approved layout for additional accommodation at the council offices. Estimated cost £15,000.

Bilston, Staffs.—Co. Health Committee propose the erection of a mental health centre.

Bingham, Notts.—R.D.C. recommended to approve the modernisation of 176 pre-war Council houses in the district within the next two years.

Blackpool, Lancs.—Sir Lindsay Parkinson and Co., Ltd., are preparing a development scheme providing for a multi-storey car park, ground floor restaurants and other facilities in Princess Street for B.C. Estimated cost £50,000.

Bootle, Lancs.—Housing Committee have approved, for submission to the Ministry, scheme for erection of 21 lock-up garages on land at rear of the four-storey maisonettes on Marian Way. Estimated cost £3,320.

B.C. to apply for sanction to borrow £26,760 for conversion of the Imperial Cinema into public hall.

Bristol.—Airport Committee to proceed with development scheme for the Terminal Building at the Airport. Estimated cost £35,000.

Burwell, Cambs.—C.C. recommended to submit to Home Office for approval, scheme for the construction of a two-bay auxiliary fire service appliance garage at Ness Road. Estimated cost £5,000.

Cambridgeshire.—C.C. recommended to approve and submit to Home Office for approval, revised plans for new County Fire Brigade Headquarters.

Castle Ward, Northumb.—The Council of King's College, 3 Devonshire Terrace, Newcastle upon Tyne, have received planning permission to use Close House for educational purposes and to erect residential accommodation for students.

Charlton Kings, Glos.—U.D.C. have approved in principle, the provision of dressing room accommodation at the recreation ground. Estimated cost £4,240.

Chesterfield, Derbys.—Birtley Engineering, Ltd., Market Place Chambers, West Bars, propose the erection of new main offices at Barker Lane.

Chester-le-Street, Dur.—Tenders have not yet been obtained for the erection of a £110,000 motel at Birtley, for Highway Hotels, Ltd., Sunderland. The architects are Matkin and Hawkins, Barclays Bank Chambers, Fawcett Street, Sunderland.

Plans have been prepared by J. M. Angus, 3 Gallowgate, Newcastle upon Tyne, for the erection of lounge and concert hall at the Charles Perkins R.A.O.B. Club, Birtley; Durham Chemicals, Ltd., Birtley, propose canteen and security services block; I. Berri-man, Ltd., Woodlands Joinery Works, Fence Houses, are seeking permission to erect a block of shops at Durham Road, Birtley.

Cumberland.—During 1962-3, the C.C. proposes proceeding with the proposed Whitehaven Hostel for Post Psychotics (£27,000), additional clinic facilities for

Salterbeck/Harrington (£12,000), and four nurses' houses (£14,250); County Architect has prepared plans for family unit home at Penrith to cost £8,300; C.C. are to erect an old people's home to serve North-East Cumberland, and a site at Brampton is expected to be selected; a secondary school costing over £162,000 is proposed by the C.C. at Longtown.

Darlaston, Staffs.—U.D.C. to erect a sports pavilion at George Road Park. Estimated cost £10,000.

Darlington, Dur.—Borough Architect, Central Buildings, has prepared sketch plans for youth centre at Branksome.

Deventry, Northants.—C.C. have approved scheme for the remodelling of St. James County Infants' School. Estimated cost £22,800.

Dawley, Salop.—U.D.C. recommended to apply for sanction to borrow £11,000 for extensions to the Town Hall and repairs to the older parts of the buildings.

Dorchester-on-Thames, Oxon.—Bishop of Oxford and Associates have launched an appeal for £30,000 for the restoration of Dorchester Abbey.

Durham.—Martin and Felton, Refuge Buildings, St. Thomas Street, Sunderland, have been appointed quantity surveyors by the C.C. for proposed modern schools at Hartlepool West View and West Boldon.

Durham.—City Council have approved outline plans for the erection of a parish hall at Highwood View (subject to conditions).

Edmonton, Middx.—North East Metropolitan Regional Hospital Board are preparing plans for the provision of a new maternity unit at the North Middlesex Hospital.

Evesham, Wores.—R.D.C. have approved revised scheme for modernising eight houses at Middlesex, Peabworth, including the installation of w.c.s, hot water systems, wash basins and new drainage. Estimated cost £4,043.

Felixstowe, Suffolk.—Governors of Felixstowe College have launched an appeal for £50,000 for the construction of a chapel and a swimming pool.

Gateshead, Dur.—Outline plans have been approved for church hall at Southend Road for the Gateshead Baptist Church. The architects are Arthur and Kirkup, 13 Swinburne Street, conditional approval has been given by the B.C. to the erection of two shops and flats at Flexbury Gardens for M. Grady, Ltd., Broadwood Road, Newcastle upon Tyne.

Outline plans have been approved for single-storey warehouse, and three-storey office building at South Shore Road for A. S. McHugh and Co., Ltd., 46 Sandhill, Newcastle upon Tyne.

Gloucestershire.—E.C. have submitted to M.E. for approval, scheme for extending Hartbury Farm Institute. Estimated cost £172,398.

Greenwich.—Recent application for L.C.C. town planning approval include the following: 292 flats and 214 garages, including a nine-storey block, at Heath Lane, Blackheath, for Listry Investments, Ltd.; 24 flats, 12 maisonettes and 30 garages at 85-88 Vanbrugh Park, for Bell Properties Construction, Ltd.

Hackney.—Recent applications for L.C.C. town planning approval include the following: A factory at 5-7 Urswick Road, for which the surveyors are F. A. Reed and Partners, 10 Storeys Gate, London, S.W.1; new pathological laboratory at Hackney Hospital, Homerton High Street, for which the architects are Guy Morgan and Partners, 12a Eaton Square, London, S.W.1.

Halifax, Yorks.—Corporation's Development Committee have granted an application, subject to conditions, to Kaye, Howarth and Co., 32 John William Street, Huddersfield, for development of land providing for four shops, public house and 41 lock-up garages on land off Mixenden Road, Mixenden.

Hammersmith.—L.C.C. town planning approval is being sought for seven-storey buildings, with showrooms, storage, residential accommodation and petrol filling station at 327-337 King Street and 1 St. Peter's Grove, for which the architects are Sydney Tatchell Son and Partners, Cliffords Inn, Fleet Street, London, E.C.4.

Hampstead.—Recent applications for L.C.C. town planning approval include the following: a block of 15 flats at Mount Tyndal, Spaniards Road, for which the architects are Douglas Stephen and Partner,

30b Wimpole Street, London, W.1; a block of 35 flats at 7 and 9 Fellows Road for which the architects are P. and D. T. Myers, 71 Fentiman Road, S.W.8; two blocks of flats at Mount Tyndal, Spaniards Road, for which the architects are Michael Barnett and Bampton, 329 High Holborn, W.C.1; warehouse and offices at Blackburn Road, for which the architects are Manning and Clamp, 19 The Green, Richmond, Surrey.

Haverfordwest, Pems.—Home and Colonial Stores, 179 City Road, London, E.C.1, propose the demolition of premises in Bridge Street and erection on site of a large store.

Hemel Hempstead, Herts.—B.C. to proceed with scheme for the construction of a town centre pavilion for dancing, dining and receptions. Estimated cost £266,000.

Hinckley, Leics.—U.D.C. have granted, subject to conditions, planning permission for site for the erection of a four-storey block of offices and shops, Odeon Cinema and Borough House, for the Leicestershire Building Society, The Borough, Hinckley.

Huddersfield, Yorks.—Plans prepared by the Church Building Department, 6 Tattenham Crescent, Epsom, Surrey, in conjunction with T. P. Bennett and Sons, Bloomsbury Square, London, W.C.1, for erection of a Mormon chapel at Birchencliffe for the Church of Jesus Christ of Latter-day Saints. Estimated cost £45,000.

Ilford, Essex.—M.E. have approved the provision of a further education wing and youth employment bureau at Fairlop Secondary Boys' School and the erection of Benton Special School at Barley Lane. Estimated cost £20,280 and £80,296, respectively.

Isle of Ely.—E.C. have approved the inclusion of the following in the 1961/62 programme: Witchford Junior and Infant School, remodelling and extensions, £22,500; Wilburton Manor School, residential accommodation for staff, £1,834; Isle of Ely College, residential accommodation at Halidon, £2,900; Wisbech, Queen's Girls' School, pavilion on playing field, £3,300.

Kingsclere and Whitechurch, Hants.—Co. Planning Committee have approved plans for a civil defence training centre on the old gas works site at Kingsclere.

King's Lynn, Norfolk.—B.C. recommended to apply for sanction to borrow £15,395, for the erection of an abattoir in the South Lynn area; prepare revised scheme for a block of 12 brick garages adjoining the community centre at Highgate.

Lewisham.—Recent applications for L.C.C. town planning approval include that for an office, factory and warehouse south of Catford Bridge Station, for which the architects are Begbey and Meers, 12 Pancras Lane, London, E.C.4.

Leeds.—Ward, Ruddick and Ward, Purey Cust Chambers, York, are the architects for erection of wholesale warehouse and offices in Westgate, for Yorkshire Factory Co., Ltd., Doncaster.

Leyton, Essex.—B.C. recommended to approve the erection of 13 garages on land between 80 and 86 Lansdowne Road, and 22 on the sites of 31 Lansdowne Road and 2, 4, 6 and 8 Cecil Road; apply for sanction to borrow £4,000 for the formation of vehicle service bay at Auckland Road depot.

Lichfield, Staffs.—City Council to invite tenders shortly for the erection of the bus station at Levett's Field, and subject to Ministry approval commence work by beginning of 1962.

Maghull, Lancs.—Kenneth Wakefield, Jerram and Harris, 7 Connaught Place, London, W.2, are the architects for proposed shopping centre between Northway and Liverpool Road North for Ravenscroft Properties, Ltd.

Newark, Notts.—Church Authorities are to launch an appeal for £40,000 for the restoration of Newark Parish Church. Lawrence H. Bond, 44 Castlegate, Grantham, Lincs., is the architect for the scheme.

Newcastle-under-Lyme, Staffs.—B.C. recommended to approve revised plans for the civic centre at Merrial Street. Architects for the scheme are Bradshaw, Gass and Hope, 19 Silverwell Street, Bolton. Estimated cost £300,000.

Newcastle upon Tyne.—Planning approval has been given to the erection of the Firfield Secondary Modern School for E.C. The architects are G. H. Gray and Partner, 8 Portland Terrace; additions are proposed to premises

on the Great North Road to provide accommodation for studios and staff rooms, for the Council of King's College, 1 Devonshire Terrace; plans have been prepared by J. W. Summers and Partners, 33 Jesmond Road, for a storage depot in Back Brentwood Avenue for Refreshers, Ltd., 5 Haymarket; plans are being prepared by R. Turley and Associates, 46 Jesmond Road, for shops and housing developments at West Road and Slatford Lane for George Bainbridge, Ltd., 205 West gate Road; J. Moffitt, Cheviot View, Ponteland, Northumberland, is the architect for additions at St. James' Street for Newcastle Working Men's Club; C. Solomon, 30 St. Mary's Place, Newcastle, has prepared plans for meeting rooms and offices at 4-5 Hutton Terrace, for the Federation of Master Builders; Esso Petroleum Co., Ltd., 77 Whitworth Street, Manchester, are to erect service station at the Foss way, for the Cleveland Petroleum Co. Ltd.

Nuneaton, War.—C.C. recommended to approve, subject to M.E. approval, the erection of the first instalment of Camp Hill Youth Centre.

Pershore, Worcs.—C.C. have approved scheme for the completion of the Pershore Institute, including the building of a hostel block to accommodate 60 students, two staff houses, and some extension to the greenhouses. Estimated cost £80,000.

Peterborough.—M.E. have approved the Joint Education Board's proposal for enlarging Walton County Secondary School, establishment of a county primary school at Wittering and extension of Lincoln Road Secondary Boys' School.

Oddenino's Property and Investment Co., Ltd., expect to invite tenders in February for phase 1 of the Broadway-Midgate redevelopment scheme, comprising a large shopping block and an arcade. Subject to county planning approval being obtained demolition of the existing building on site should commence in January and construction work in connection with phase 1 in April. Douglas Stephen and Partners, 30B Wimpole Street, London, W.1, are the architects for the scheme. Estimated cost £800,000.

Portsmouth.—Hampshire Planning Committee have approved the erection of a health clinic, community centre and ambulance station at Dunsbury Way, Leigh Park.

E.C. to apply for sanction to borrow £22,375 for alterations to Copnor Modern School for Girls and George Street Junior Mixed School and £3,380 for construction of a caretaker's lodge at Portsdown Schools.

Scarborough, Yorks.—B.C. recommended to approve the erection of 20 lock-up garages at Eastfield and seven lock-up garages on the Barrowcliff estate at an estimated cost of £3,071 and £1,008, respectively.

Sheffield.—City Council recommended to appoint the following quantity surveyors: Gordon Hall and Powell, 14 Figtree Lane; S. D'Arcy Dye, 7 Paradise Square; and Mercer and Miller, 19 Convent Walk, for alterations and extensions at Morley Street County School, Whitby Road County School and various schools (cycle sheds), respectively.

Sheffield.—Sheffield Wednesday F.C. propose extensions to their covered accommodation at Spion Kop, Hillsborough.

Southampton.—Wessex Regional Hospital Board have approved the commencement in 1962 of various projects (five stages) in the major redevelopment of Coldeast Hospital.

South Shields, Dur.—A contract is expected to be finally decided within a few days for the erection of new premises in Bath Street, for South Shields Football Supporters' Club. The architects are T. A. Page, Son and Hill, 75 King Street.

Staffordshire.—C.C. to erect a county school for maladjusted boys at Ashley, near Eccleshall, Stafford. Estimated cost £75,000.

Stockton-on-Tees, Dur.—The British Transport Commission are considering the erection of shops, showrooms, offices, etc.; Tees Land Investment Co. have submitted proposals to the planning authorities for shops and offices at the junction of Bridge Road and Park Terrace; plans have been approved for extending the West End Bowling Club, Hartburn; J. W. Cameron and Co., Ltd., Lion Brewery, West Hartlepool, are to erect hotel at Dover Road; Brouchs, Ltd., Oxford Street, Newcastle upon Tyne, propose shop and maisonnettes on the Hardwick estate; The Power-Gas Corporation are to erect new laboratory at their Parkfield works; R. S. Taylor, 109 Hartburn Village, is to erect two-storey shops, with showrooms above at Yarm Lane; Maddox, Ltd., West Row Mills, are to erect two-storey shop and store in Bishop Street; Jehovah's Witnesses have submitted proposals to the B.C. for a church in Wrensfeld Road, Newtown; Martins Bank, Ltd., propose alterations and additions to their premises at Norton Road; F. R. Evans, Ltd., Leeds, are to develop the Portrack gun site for industrial purposes and an outline scheme has been prepared.

Stoke-on-Trent, Staffs.—Shop Development Group of Companies, 12 St. George Street, London, W.1, have purchased a site fronting Old Hall Street, Charles Street and Gilman Street, Hanley, for the erection of shops, supermarket and offices.

Stroud, Glos.—Home Office have approved revised plans for a fire station at Paganhill Lane, for the Co. Fire Brigade Committee. Estimated cost £90,000.

Sunderland, Dur.—B.C. recommended to appoint T. H. Rae and Partners, 5 Green Terrace, quantity surveyors for the erection of the Thornhill Secondary Modern School.

Sunderland, Dur.—A contract will be decided at an early date for office additions for Cameron and Sons, Hudson Road. The architects are Matkin and Hawkins, Barclays Bank Chambers, Fawcett Street.

Tipton, Staffs.—It is hoped to commence work in November on the erection of seven shops and showrooms at Great Bridge, for Baratham, Ltd., J. F. Phillips and Associates, 36 New Street, West Bromwich, are the architects and E. Morton, 4 Winchester Road, Handsworth, Birmingham, structural consultant, for the scheme. Estimated cost £30,000.

Warwickshire.—C.C. have approved plans for improving a farm at Long Marston. Estimated cost £12,750.

Wellingborough, Northants.—U.D.C. propose the improvement of 283 pre-war council houses. Estimated cost £22,500.

Wellington, Salop.—It is hoped to commence work in November on the erection of an office block for occupation by Ministry departments. J. F. Phillips and Associates, 36 New Street, West Bromwich, are the architects, E. Morton, 4 Winchester Road, Handsworth, Birmingham, the structural consultant and D. Round, heating engineer, for the scheme. Estimated cost £40,000.

West Suffolk.—C.C. have approved scheme for a county grammar school for girls at Bury St. Edmunds. Estimated cost £216,535.

Willenhall, Staffs.—It is hoped to commence work in October on the erection of offices for the Ductile Steel Group, J. F. Phillips and Associates, 36 New Street, West Bromwich, are the architects, O. Wainwright and Partners, 63 Temple Row, Birmingham, 2, quantity surveyors and E. Morton, 4 Winchester Road, Handsworth, Birmingham, structural consultant, for the scheme. Estimated cost £100,000.

Willenhall, Staffs.—Co. Health Committee propose the erection of an adult hostel.

Worcestershire.—E.C. to proceed with scheme for the provision of a teaching farm. Estimated cost £100,000.

C.C. have approved the provision of a civil defence centre at Hindlip Hall. Estimated cost £7,000.

York.—Planning Committee have approved by-laws and planning for a new Roman Catholic Church to be built at the junction of Monkton Road and Abbotsway, York.

ELECTRICAL

Doncaster, Yorks.—B.C. recommended to approve the spending of over £2,000 on electrical work and structural alterations to 104 prefabs on the Broomhouse Lane estate, Balby.

Tewkesbury, Glos.—Co. Finance Committee recommended to approve scheme for overhauling and re-wiring the electrical installation in Walton House residential nursery. Estimated cost £1,250.

FENCING

Lancaster.—C.C. to apply for sanction to borrow £1,771 for purchase and fencing of a site at Galgate, for a proposed nursery school.

Scarborough, Yorks.—B.C. recommended to approve the erection of fencing and gates on the North Wharf. Estimated cost £725.

Wanstead and Woodford, Essex.—B.C. recommended to invite tenders from selected contractors for the provision of concrete fencing at Maldon Walk, Highclere and Woodbridge Court.

GAS AND WATER SUPPLY

Burnley, Lancs.—R.D.C. to apply for sanction to borrow £23,113 for laying water mains in parishes of Read and Sadden.

Clun, Salop.—R.D.C. have submitted to Ministry for approval, a water supply scheme. Estimated cost £35,750.

St. Faiths and Aylsham, Norfolk.—R.D.C. have approved water supply schemes to serve 581 properties in 17 villages. Estimated cost £88,300.

St. Helens, Lancs.—B.C. recommended to approve construction of water softening plant at Knowsley pumping station. Estimated cost £80,000.

HEATING AND VENTILATING

Boston, Lincs.—R.D.C. to install an oil-fired heating system in the council offices. Estimated cost £2,140.

King's Lynn, Norfolk.—B.C. recommended to approve in principle, scheme for the installation of an oil-fired system in the Corn Exchange. Estimated cost £2,300.

HOUSING SCHEMES

Barmouth, Merioneths.—U.D.C. to submit plans to the Ministry for housing development on the Plasmynach site near the seafont.

Bewdley, Worcs.—B.C. to erect old people's dwellings at Bark Hill.

Blyth, Northumb.—Plans approved for houses and shops at Fountains Head Bank, for R. A. Gofton and Son, Ltd., Front Street, Monkseaton; W. Leech, Ltd., St. James Street, Newcastle upon Tyne, have received permission to erect 18 flats, two houses, and shops and flats at Tynedale Drive.

Boston, Lincs.—R.D.C. plan the erection of 16 houses, eight bungalows and 18 garages at Drury Lane, Bicker.

Bridgnorth, Salop.—R.D.C. recommended, subject to Ministry approval, to negotiate a tender for the erection of 12 to 16 houses at Rhea Hall (extension) site at Highley.

Calne and Chippenham, Wilts.—R.D.C. have approved plans for a block of old people's accommodation at Derry Hill.

Corby, Northants.—U.D.C. to reinstate tenders in October for the erection of a block of flats for old people at Studfall Avenue.

Coventry.—F. G. Minter, Ltd., 4 Buckingham Gate, London, S.W.1, have purchased 120 acres of land at Stivichall for housing development, work is expected to commence shortly on the first section (40 acres) fronting Leaf Lane off the Kenpas Highway.

Doncaster, Yorks.—R.D.C. have approved the erection of 15 houses for employees of I.C.I. Ltd.

Evesham, Worcs.—B.C. have approved in principle, scheme for a block of old people's flats, with warden's house attached at Bewdley Street.

Fareham, Hants.—Co. Planning Committee have granted U.D.C. outline permission for the residential development of two areas of land at Stubbington.

Gateshead, Dur.—Borough Engineer has prepared layout plans for erection of 38 old people's bungalows on Sheriff Hill estate. No contracts let.

Gosport, Hants.—Co. Planning Committee have approved, subject to conditions, the erection of two 16-storey blocks of flats at Trinity Green, for B.C.

Havant and Waterloo, Hants.—Co. Planning Committee have approved proposals for the erection of 214 dwellings at Milton Road, Waterlooville, for U.D.C.

Holywell, Flints.—U.D.C. seeking sanction to borrow £10,048 for purchase of land at Penymaes for housing.

Kettering, Northants.—Adkins and Shaw (Building Contractors), Ltd., St. James Road, Northampton, have submitted to B.C. for approval, scheme for 22 flats with garages in two-storey buildings at junction of Northampton Road and Gipsy Lane.

Lancaster.—Ministry have approved the erection of 10 bungalows for old people at Galgate for R.D.C.

Leek, Staffs.—R.D.C. have approved in principle scheme for the provision of houses for old people, together with welfare facilities (sites not yet selected).

Lichfield, Staffs.—City Council recommended, subject to Ministry approval, to negotiate a contract with Lewis Bros. (Wensfield) Ltd., for the erection of a block of 17 flats for old people at Sandford Street; prepare bills of quantities and obtain tenders for the erection of 199 dwellings at Wheel Lane estate.

Marshland, Norfolk.—R.D.C. to erect four two-bedroomed bungalows at The Wroe, Emneth, and four one-bedroomed bungalows at Hickathrift Fields, Marshland St. James.

Middlesbrough, Yorks.—B.C. have invited the following firms to submit schemes for proposed housing developments at Longlands Road: John Laing Construction, Ltd., Norham House, New Bridge Street, Newcastle upon Tyne; Richard Costain, Ltd., Marton Road, Middlesbrough; and F. Shepherd and Son, Blue Bridge Lane, York. The scheme will involve the erection of about 400 dwellings.

A. E. Gray and Son, Ltd., Tynedale Street, Stockton-on-Tees, have received Ministry permission to erect houses, etc., on a 26-acre site at Tollesby.

Peterborough.—Ministry to hold a public inquiry on November 21 into an application by C. W. Shelton, Ltd., South Street, Stan- ground, for permission to develop 240 acres of land at Gunthorpe for housing purposes.

R.D.C. to submit to C.C. for approval and grant aid, revised scheme for grouped dwellings for old people at Hodney Road, Eye, comprising 26 bungalows, 34 houses and 15 garages, estimated cost £157,238; prepare scheme for four bungalows and eight houses

at Castor and seven or eight bungalows facing Holmes Road, Welmore Road estate, Glington.

Portsmouth.—Development and Estates Committee have approved in principle, scheme for two 18-storey blocks of flats in the Church Street area of Landport.

Rowley Regis, Staffs.—It is hoped to commence work in October on the erection of 10 houses for A. H. Properties, Ltd., J. F. Phillips and Associates are the architects for the scheme. Estimated cost £16,000.

Royston, Yorks.—U.D.C. recommended to apply to the Ministry for an allocation of 70 houses for the coming year, 54 to be built on the Doles estate and others at Cross Lane.

Rushden, Northants.—U.D.C. have prepared preliminary plans for a block of 16 flatlets for old people.

Scarborough, Yorks.—B.C. to apply to Ministry for approval to invite tenders for the erection of 27 houses at Eastfield.

South Kesteven, Lincs.—Jelson Ltd., 340 Loughborough Road, Leicester, have purchased land at Casewick Lane, Uffington for residential purposes. R.D.C. have granted outline planning permission for the development of the land.

Stockton-on-Tees, Dur.—Premier Dwellings (Cleveland), Ltd., Albert Road, Middlesbrough, are seeking planning permission for the erection of multi-storey flats at South Road, Norton; N. Stonehouse (Stockton), Ltd., Northcote Street, are seeking permission to erect houses at Darlington Road; J. Bonar, 96 Junction Road, Norton, propose eight flats and four garages at Lynmouth Avenue; detailed plans have been prepared for 159 houses near Lonesome Hall Farm estate, Fairfield, by Moorhouse and Barker, Ltd., 100 Thornaby Road, Thornaby-on-Tees; plans approved for 32 houses near Hartburn Avenue for Gray and Son, Ltd., Tynedale Street.

Sutcombe, Devon.—Parish Council to apply for planning permission for the erection of two additional bungalows at the housing estate.

Taunton, Som.—B.C. are to purchase land adjoining Slape's Farm, Cheddon, for a new housing scheme; are to erect two houses at Clatworthy (for employees of water department). Estimated cost £8,500.

Twickenham, Middx.—B.C. recommended to approve plans for the erection of a 13-storey block of flats at Wick Road, Hampton Wick; redevelop the site of two old properties, Fairlight and Sussex Lodge, at the corner of Windmill Road and Uxbridge Road, Hampton Hill, by the erection of 48 flats in three-storey blocks with 36 garages.

Wakefield, Yorks.—City Council have submitted to the Ministry scheme for the erection of five blocks of four one-bedroom flats in Alverthorpe Road.

Housing Committee have approved plan to build houses for sale on sites at Kettlethorpe and Peas House Farm. Five pairs of houses are to be built immediately.

Wigan, Lancs.—Housing Committee have approved scheme for erection of eight bungalows for old people on land between Montrose Avenue and Severn Drive, Pemberton, and the erection of 39 houses and four flats at Drummond Square.

PLAYING FIELDS, PARKS, ETC.

Portsmouth.—Development and Estates committee to apply for sanction to borrow £50,000 for the layout of Point Battery, Old Portsmouth.

RIVER AND FLOOD PREVENTION WORKS

Blackburn, Lancs.—B.C. recommended to approve scheme for alleviation of flooding in the Whalley New Road district. Estimated cost £2,850.

King's Lynn, Norfolk.—Great Ouse River Board to proceed, subject to Ministry approval, with provision of a gauging station at West Newton Mill on the River Babingley, estimated cost £900.

Leominster, Heres.—River Lugg Internal Drainage Board have submitted to Ministry for approval and grant aid, flood alleviation scheme for Honeylake Brook, Ivington, up to the Alden culvert, estimated cost £3,965.

Malvern, Worcs.—Severn River Board have submitted to Ministry for approval and grant aid scheme for work on the bank revetment of approximately nine-tenths of a mile on the west bank of the River Severn between Clevedale and Pixham, estimated cost £23,000.

Shrewsbury, Salop.—Ministry to hold a public inquiry into B.C.'s scheme to construct a new weir across the River Severn.

ROADS, BRIDGES AND SITE WORKS

Accrington, Lancs.—B.C. recommended to approve plans and invite tenders for various street works within the borough.

Barrow-in-Furness, Lancs.—B.C. recommended to prepare detailed plans for the

widening of Flass Lane, including the provision of footpaths and widening of the bridge and improvements to Mill Beck to reduce flooding in the Flass Lane area.

Blackburn, Lancs.—B.C. recommended to apply for sanction to borrow £13,060 for improvement, re-shaping and resurfacing of carriageway and footpath in Burnley Road.

Bridlington, Yorks.—B.C. recommended to approve scheme for improvement of the Sewerby Road frontage of the Limekiln Lane camp. Scheme will include provision of a footpath, and levelling and cultivation of area between proposed footpath and roadway in Sewerby Road. Estimated cost £1,250.

Cambridge.—C.C. recommended to approve scheme for widening the junction of Brooklands Avenue and Hills Road, for City Council. Estimated cost £2,400.

Dudley, Worcs.—B.C. recommended to approve layout plans for a dual carriageway in Birmingham Road.

Holland.—C.C. propose to re-align and widen the road at Swineshead Abbey, during 1963-64. Estimated cost £30,000.

Holt, Norfolk.—Co. Highways Committee raise no objection to application by the Governors of Gresham School for permission to erect a footbridge over the road opposite the school entrance.

Huntingdonshire.—County Surveyor to prepare outline scheme for a western by-pass of St. Ives.

Kesteven.—C.C. recommended to approve in principle a dual-carriageway scheme for Barrowby Hill on the A.52 Grantham-Nottingham road. Estimated cost £22,365.

Lancashire.—C.C. to ask the MOT to agree in principle to the construction of a Merseyside Expressway which will provide a motorway link between Liverpool and Manchester. It will pass south of St. Helens and north of Warrington. Scheme in its early stages.

Lincoln.—C.C. have approved plan for the reconstruction of Butts Bridge at Coningsby. Estimated cost £23,400.

Nailsworth, Glos.—U.D.C. to apply for sanction to borrow £1,166 for the construction of a car park alongside the Town Hall.

Newburn-on-Tyne, Northumb.—Plans approved for roads and sewers, etc., at Throckley for M. Grady, Ltd., Broadwood Road, Newcastle upon Tyne. The architects are Wetherell, Lamb and Partners, 24 Picton Place, Newcastle upon Tyne.

Rochdale, Lancs.—B.C. recommended to apply for sanction to borrow £19,900 for the widening of Heights Lane between Knowsley Street and its junction with Industry Road, the widening of Industry Road, between Heights Lane and Quarry Street and the improvement of the Quarry Street/Whitehall Street junction and £2,950 for the improvement of the Whitehall Street/Hope Street junction; submit to M.T. for grant aid, plans for the widening of Edenfield Road between Passmonds Garage and Churchill Street. Estimated cost £38,800.

Rutland.—C.C. have approved scheme for widening a portion of High Street, Uppingham.

M.T. are prepared to approve for grant aid, during 1962-63, improvement scheme on the Oakham-Stamford Road at Barnsdale Hill, for C.C. Estimated cost £32,500.

Sheffield.—M.T. have approved the Baslow Road improvement scheme involving the little bridge, and sharp bend in the road above it, at Totley Rise, for City Council. Scheme will cost £50,883, and the Ministry is making a 75 per cent. grant towards it.

Highways Committee have approved a proposal from the English Steel Corporation, Ltd., to build a bridge over Shepcote Lane, Tinsley.

Staffordshire.—M.T. are prepared to consider for grant aid the following schemes, for C.C.—1961-62: Stone-Rugeley road, Great Heywood by-pass, £400,000; Tamworth-Coleshill road, Draycott Lane to the Warwickshire boundary, £120,000. 1963-64: Rugeley-Lichfield road, railway arches to Red Lion Inn, £120,000; Longdon to Constitution Fork, £200,000.

Stoke-on-Trent, Staffs.—City Council recommended to approve revised scheme for the making-up of Grasmere Terrace, Burslem.

Wellingborough, Northants.—U.D.C. to prepare bills of quantities and invite tenders for the construction of roads and sewers to serve an industrial site in London Road.

Wigan, Lancs.—B.C. have applied for sanction to borrow £14,000 for improvement of the Millgate-Station Road junction.

Worcestershire.—Highways and Bridges Committee have approved schemes for the widening and reconstruction of the Hampton Lovett railway bridge on the Droitwich-Kidderminster road and widening a section of Station Road, Fernhill Heath. Estimated cost £48,135 and £10,250 respectively.

York.—City Council to apply to the M.T. for a grant towards the cost of a £520,000 bridge to be constructed at Clifton.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Andover, Hants.—Ministry have approved the re-laying of the sewer at Enham-Alemain for B.C.

Barrow-in-Furness, Lancs.—B.C. recommended to apply for sanction to borrow £3,630 for the extension of the sewage system at Park Road, Ormskill.

Bridlington, Yorks.—B.C. recommended to approve the construction of a relief sewer in Sewerby Avenue. Estimated cost £2,580.

Calne and Chippenham, Wilts.—Ministry have approved in principle, stage 3 of the Box sewerage scheme for R.D.C. Estimated cost £21,000.

R.D.C. have submitted to Ministry for approval, sewerage scheme for the north-eastern area, estimated cost £234,000; are preparing sewerage schemes for Grittleton (£18,000), Cherhill (£14,000), Hilmarton (£30,000), Heddington (£12,000), and Stanton St. Quintin (£10,000).

Deben, Suffolk.—R.D.C. to prepare detailed plans of the sewage disposal works in connection with the Melton sewerage and sewage disposal scheme. Estimated cost £88,520.

Havant and Waterlooville, Hants.—U.D.C. to prepare drainage scheme for Hayling Island; submit to Ministry for approval, comprehensive surface water drainage scheme for the west side of London Road through Cowplain and Waterlooville. Estimated cost £167,000.

Kingsclere and Whitechurch, Hants.—Co. Planning Committee recommended to grant permission to R.D.C. for the erection of a sewage pumping station and sewage disposal works at Hurstbourne Priors and a pumping station at St. Mary Bourne.

Kingston, Heres.—R.D.C. have approved, subject to Ministry approval, sewerage schemes for Earlsley and Pembroke. Estimated cost £17,000 and £21,800 respectively.

Leek, Staffs.—R.D.C. have submitted to Ministry for approval, sewerage scheme for Longnor. Estimated cost £53,200.

Lichfield, Staffs.—R.D.C. to submit to Ministry for approval, sewerage and sewage disposal scheme for the parishes of Hammerwich, Burntwood, Chorley and Muckley Corner. Estimated cost £374,854.

Ministry have approved R.D.C.'s sewerage scheme for Hill Ridware. Estimated cost £26,083.

Lothlingland, Suffolk.—R.D.C. to apply for sanction to borrow £96,550 for the Blundeston and Corton sewerage scheme.

Lowestoft, Suffolk.—B.C. recommended to approve, in principle, report prepared by J. D. and D. M. Watson, consulting engineers, 67 Tufton Street, London, S.W.1, on main drainage works. Scheme to be carried out in three phases, £415,000, £222,000, £325,000 respectively. Consulting engineers to design, prepare and supervise whole scheme, and invite tenders in about a year's time for the first phase. Total estimated cost £962,000.

March, I. of E.—U.D.C. have applied for sanction to borrow £3,130 for the construction of a subsidiary sewer in Highfield Road.

Oswestry, Salop.—B.C. recommended to apply for sanction to borrow £12,289 for sewerage extensions to serve developments off Middleton Road.

Romsey and Stockbridge, Hants.—Co. Planning Committee recommended to approve R.D.C.'s proposal to erect four pumping stations and construct a sewage disposal works in connection with the main drainage of Stockbridge.

St. Faiths and Aylsham, Norfolk.—R.D.C. hopes to invite tenders in the autumn for the third stage of the fringe area sewerage scheme including Catton and parts of Hellesdon and Sprowston.

Samford, Suffolk.—R.D.C. have approved a sewerage scheme for Chelmondiston. Estimated cost £71,800.

Thingoe, Suffolk.—Ministry have approved in principle, R.D.C.'s scheme for sewerage Ingham, Culford, West Stow, Flempton and Risby.

Wanstead and Woodford, Essex.—B.C. recommended to instruct D. Balfour and Sons, consulting engineers, 131 Victoria Street, London, S.W.1, to prepare, for submission to Ministry, detailed plans for the first stages of the provision of a main sewerage system, comprising schemes 1, Tavistock Road area, 2, South Woodford Station area and 3, Gates Corner area.

STREET LIGHTING

Blackpool, Lancs.—B.C. seeking sanction to borrow £99,435 for converting pre-war lighting to modern standards in the Bispham, Anchors-holme and Marton Moss areas.

Kettering, Northants.—B.C. have approved scheme for improvement of street lighting in Neale Avenue and Bland Avenue. Estimated cost £1,990.

Saffron Walden, Essex.—B.C. have approved in principle the first stages of a five-year electric street lighting scheme.

CONTRACTS

Full details of the Contracts marked * will be found in our Advertisement Columns.
BUILDING AND DECORATING
 (See also Housing Schemes)

Batley, Yorks.—External painting of nine dwelling houses, number 1 to 9 inclusive at Wheatclose, Holmebridge, Hointh, for B.C. Documents from the Water Engineer, 31 Branch Road, Batley. Tenders by Sept. 9.

Belfast.—Alterations and additions to Arlington House, Windsor Avenue, for Ashleigh House School. Documents from the office of W. H. Stevens and Sons, quantity surveyors, 13 Donegall Square North, Belfast. Deposit £5 5s. Tenders by Sept. 15.

Berkshire.—Erection of an additional classroom and cloakroom at Cumnor C.E. Primary School for C.C. Applications to the County Architect, Wilton House, Parkside Road, Reading. Deposit £2 2s. Tenders by Sept. 26.

Biddulph, Staffs.—External painting of 18 dwellings at Lawton Street, for U.D.C. Documents from A. D. Robinson, housing manager, Council Offices, Biddulph. Deposit £1 1s., cheques payable to Council. Tenders by September 5.

Bournemouth, Hants.—Construction of laboratory block and superstructure of two pumping stations at Sewage Disposal Works, Holdenhurst (contract 5) for B.C. Documents from Farmer and Dark, 14 High Street, Poole. Tenders by Oct. 6.

Bury, Lancs.—Pointing of part of the Market Hall, Market Street, for B.C. Documents from Borough Engineer, Town Hall, Bury. Documents from Edward S. Smith, town clerk, Town Hall, Bury. Tenders by Sept. 9.

Caernarvonshire.—Extensions to Llanberis Fire Station for C.C. Documents from County Architect, County Offices, Caernarvon. Tenders by Sept. 11.

Calne and Chippenham, Wilts.—Redevelopment of Rudloe Camp for R.D.C. Applications by Sept. 9.

Cardiff.—Alterations to the Castle Mews flats in the grounds of the Cardiff Castle for City Council. Documents from the City Architect's Department, Municipal Offices, Greyfriars Road, Cardiff. Deposit £2 2s., cheques payable to Corporation. Tenders by Sept. 21.

Cardiganshire.—Erection of new administrative offices for the Southern Highways Department at Penrhos, Llandysul, for C.C. Documents from the County Architect, County Hall, Aberystwyth. Deposit £1 1s. Tenders by September 30.

Cheshire.—C.C. invite applications from persons or firms wishing to be considered for placing upon the new list of approved contractors to be invited to tender for works up to £2,000 in value in the following trades, for district 1. Applications to The District Architect District 1, 24 Nicholas Street, Chester, by September 16. Applicants should state their trade and the area in which operating and if they have not previously worked for the County Council, should give three referees to whom application may be made regarding their work. Firms on existing lists must re-apply. Trades: Builders; painters and decorators; plumbers; electrical engineers; heating engineers; tarmacadam paviors; asphalt paviors; flooring specialists. Areas covered by district: Hoyle U.D., Wirral U.D., Neston U.D., Bebington M.B., Ellesmere Port M.B., Chester R.D., Tarvin R.D.

Cheshire.—C.C. invite applications from persons or firms wishing to be considered for placing upon the new list of approved contractors to be invited to tender for works up to £2,000 in value in the following trades in district 2. Applications to The District Architect District 2, 24 Nicholas Street, Chester, by September 16. Applicants should state their trade and the area in which operating and if they have not previously worked for the County Council should give three referees to whom application may be made regarding their work. Firms on existing lists must re-apply. Trades: Builders; painters and decorators; plumbers; electrical engineers; heating engineers; tarmacadam paviors; asphalt paviors; flooring specialists. Area covered by district: Sale M.B., Altrincham B., Bowdon U.D., Hale U.D., Lymm U.D., Bucklow R.D., Knutsford U.D., Middlewich U.D., Northwich U.D. and R.D., Winsford U.D., Runcorn U.D. and R.D.

Cheshire.—C.C. invite applications from persons or firms wishing to be considered for placing upon the new list of approved contractors to be invited to tender for works up to £2,000 in value in the following trades in district 4. Applications to the District Architect, Remenham, Alderley Road, Wilmslow, by September 16. Applicants should state their trade and the area in which operating, and if

they have not previously worked for the County Council, should give three referees to whom application may be made regarding their work. Firms on existing lists must re-apply. Trades: Builders; painters and decorators; plumbers; plasterers; electrical engineers; heating engineers; tarmacadam paviors; asphalt paviors; flooring specialists. Area covered by district: Alderley Edge, Wilmslow, Cheadle and Gatley, Hazel Grove and Bramhall Marple, Disley, Bredbury and Romiley, Dukinfield, Stalybridge, Hyde and Longdendale.

Clonmel, Tipperary, Eire.—Erection and completion of a 20 classroom primary school at Mary Street, Clonmel, for the Irish Sisters of Charity. Documents from Louis J. Brennan, B.Arch., 7 Upper Pembroke Street, Dublin. Deposit £5 5s. Plans also seen at the office of Thomas Keogh, quantity surveyor, 34 Lower Baggot Street, Dublin. Tenders by Sept. 20.

Colchester, Essex.—Erection of a public convenience in recreation ground, Old Heath Road, for B.C. Documents from Vinton Hall, borough architect, Borough Architect's Department, 64 West Stockwell Street, Colchester. Deposit £2 2s. Tenders by September 20.

Cork, Eire.—Supply and laying of thermoplastic tiles at the Desmond Square housing scheme (52 dwellings), for City Council Documents from the City Architect, City Hall, Cork. Tenders by September 5.

Crossmaglen, Armagh.—Building complete of an intermediate school and ancillary works at Crossmaglen for Very Reverend Joseph McEvoy. Documents from W. H. McEvoy, chartered surveyor, Ulster Bank Chambers, May Street, Belfast. Deposit £5 5s. cheque. Tenders by Sept. 21.

Croydon, Surrey.—Following for B.C.: (a) Building alterations, alterations at the Sydenham Primary School, Westbury Road, Croydon; (b) sanitary accommodation, improvements to sanitary accommodation at the Elmwood Primary School, Lodge Road, Croydon; (c) entrance doors, supplying and fitting entrance doors at the Spring Park Primary School, Bridle Road, Shirley. Applications for all or any of the works to Chief Education Officer, 19 Katharine Street, Croydon. Tenders by September 26.

Cumberland.—Erection of new school at Longtown, for C.C. The school is a two-form entry secondary school (floor area approximately 30,000 sq. ft.) and a caretaker's bungalow. Submit names in writing to the County Architect, 15 Portland Square, Carlisle, by September 6. Plans seen at the County Architect's Office during normal working hours. Bills of quantities will be available about the middle of September and approximately six weeks will be allowed for tendering.

Darwen, Lancs.—Repair of certain houses under notice from the Local Authority under the Housing Act, 1957, Sections 9 and 10, for B.C. Documents from the Senior Public Health Inspector, Civic Health Centre, Union Street, Darwen. Tenders by September 15.

Dewsbury, Yorks.—Conversion of chapel to Chapel of Rest at Dewsbury Cemetery, for B.C. Documents from the Office of the Borough Architect and Buildings Surveyor, Town Hall, Dewsbury. Tenders by September 14.

Durham.—Erection of maisonnettes, office and garage at Hartlepool for County Police Authority. Applications to the County Architect, South Street, Durham. Tenders by Sept. 12.

Edinburgh.—Erection of new police station at Gayfield Square for City Council. Applications to the City Architect, City Chambers, Edinburgh. Tenders by Sept. 11.

Edinburgh.—Erection of bus depot at Marine Gardens, Portobello, for Corporation Transport Department, involving the following works: (1) Excavator, brick and reinforced concrete; (2) carpenter and joiner; (3) glazier; (4) bituminous felt roofing; (5) roughcast; (6) plumber; (7) plaster; (8) tiler and terrazzo; (9) painter; (10) asbestos roofing; (11) electric; (12) floor covering. Applications to the Transport Manager, 14 Queen Street, Edinburgh, by Sept. 4. Tenders by Oct. 9.

Enniskillen, Fermanagh.—Design, supply, fabrication and erection of structural steelwork, etc., for a factory extension at Enniskillen, for the Ministry of Commerce. Tenders should note that tenders will not be considered which are not accompanied by steelwork designs. Documents from Room 28, Chichester House, 64 Chichester Street, Belfast 1. Tenders by September 8.

Flintshire.—Building work in connection with installation of a passenger lift at Hafan Glyd, Shotton, for C.C. Applications to R. W. Harvey, county architect, Llwynegryn, Mold. Deposit £1 1s., cheque payable to C.C. Tenders by Sept. 12.

Frinton and Walton, Essex.—External painting of 68 houses and bungalows situated at Bemerton Gardens, Kirby Cross, for U.D.C. Applications to the Engineer and Surveyor, The Council House, Frinton-on-Sea, Tenders by September 11.

Glamorgan.—Following works for C.C.: Heolfach, Ystrad Rhondda—erection of police station. Documents from the Heolfach Police Station and at the County Police Architect's Department, County Police Headquarters, Bridgend. Deposit £2 2s. Tenders by Sept. 18.

Guildford, Surrey.—Modernisation of 12 houses, for R.D.C. Deposit £2 2s. Tenders by September 11.

Harrogate, Yorks.—Erection of a single-storey building (87ft. by 52ft. by 16ft. to eaves, approximately) in connection with Motor Transport Building. (All trades except portals and roofing), for B.C. The work entails reinforced concrete flooring, 11in. cavity walling, glazing and joinery, all in cladding to a portal framed building. Documents from C. E. Fellows, borough engineer, Municipal Offices, Harrogate. Tenders by September 6.

Herefordshire.—Following for C.C.: (a) St. Martin's C.P. School, alterations and additions to single-storey building to form new staff room, cloaks, servery and kitchen, together with work to boiler house, etc.; (b) Ross County Secondary School, alterations and additions to form new metalwork room, science laboratory and kitchen, together with fittings and services in housecraft room. Apply to County Architect, Bath Street, Hereford, by September 6. Please state clearly whether deposit is for (a) or (b). Deposit £2 2s. each job.

Holland.—Erection of a rural studies laboratory at Spalding Gled County Secondary Girls' School, for C.C. Documents from the County Architect, County Hall, Boston, Lincs. Tenders by September 11.

Holland.—Erection of extensions at the Welfare Clinic, Park Road, Holbeach, for C.C. Documents from the County Architect, County Hall, Boston, Lincs. Tenders by September 18.

Hornsey.—Erection of mortuary, for B.C. Apply by September 15. Tenders by October 16.

Ilford, Essex.—Erection of boathouse and sailing centre, for B.C. Deposit £2 2s. Tenders by September 26.

Kesteven.—Erection of junior training centre, Grantham, for C.C. Applications to County Architect, County Offices, Stamford, Lincs., by Sept. 6. Tenders by Oct. 2.

Kidderminster, Worcs.—Extensive repairs to Dropping Wells Farm, for B.C. Documents from the office of the Borough Engineer and Surveyor, 110 Mill Street, Kidderminster. Tenders by September 8.

Lancashire.—Provision of new fire doors and improvements to existing fire doors at County Hall, Preston, for C.C. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by Sept. 4.

Lancashire.—Alterations to stable block to form classroom at Ulverston Stone Cross Special School, for C.C. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by Sept. 4.

Leek, Staffs.—External painting of the brickwork of eight houses at Longnor, near Buxton, for R.D.C. Documents from the Surveyor, 18 Stockwell Street, Leek. Tenders by Sept. 11.

Leek, Staffs.—External painting and internal decorating of the pump house, store, etc., at Endon sewage works, for R.D.C. Documents from the Surveyor, 18 Stockwell Street, Leek. Tenders by Sept. 11.

Leicestershire.—Erection of the second instalment of Blaby C.E. Primary School, for C.C. Applications to County Architect, 123 London Road, Leicester, by Sept. 11. Tenders by Oct. 9.

Leicestershire.—Erection of old people's home, Market Harborough, for C.C. Applications to County Architect, 123 London Road, Leicester, by September 5. Tenders by October 18.

Lincoln.—Erection of a secondary modern school at North Somercotes, containing approximately 25,000 super. ft. floor area, for C.C. Documents from A. Ronald Clark, county architect, County Offices, Lincoln. Tenders by Oct. 2.

Londonderry.—Alterations and extensions to telephone engineering centre (Pennyburn), Strand Road, for Ministry of Finance. Documents seen at (1) room 103 Law Courts Building, Belfast 1; (2) District Architect's Office, 12 Church Street, Coleraine; and (3) Ministry of Labour and National Insurance Local Office, Bishop Street, Londonderry. Deposit £5. Tenders by September 11.

Londonderry.—New clinic and alterations to existing bungalow at Kilrea, for County Health Committee. Documents from W. and M. Given, architects and consulting engineers, 1 Water-side, Coleraine. Deposit £3 3s. Tenders by September 8.

Loughborough, Leics.—Demolition of the existing air raid shelter and erection of public conveniences in the Market Yard for B.C. Documents from John S. Bates, borough

surveyor, Southfields, Loughborough. Deposit £2 2s. Tenders by Sept. 18.

Manchester.—Internal cleaning of the control tower block and domestic flight wing at Manchester Airport, for City Council. Documents from Airport Director, Manchester Airport Wythenshawe, Manchester 22. Tenders by September 11.

Manchester.—Supply and fixing of metal curtain walling at Elizabeth Gaskell College extensions, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by September 6.

Newbury, Berks.—Modernisation of existing houses for B.C., involving the installation of electric water storage heaters, baths, basins and ancillary pipework in 107 houses at Monks Lane and Camp Close. Documents from the Borough Surveyor, Municipal Buildings, Newbury. Tenders by Sept. 11.

Newtownabbey, Antrim.—Supply, delivery and erection of structural steelwork, at the new school buildings, 740 Shore Road, Newtownabbey, for Belfast High School, Board of Governors. Documents from the office of D. W. Boyd and Co. architects, 34 Scottish Provident Buildings, Belfast 1. Deposit £5 5s. cheque. Tenders by September 5.

Peterborough.—Alterations necessary to convert an existing building to a cloakroom and toilet at St. John's Close, Thorpe Road, for C.C. Documents from the County Surveyor, County Offices, Bridge Street, Peterborough. Tenders by September 11.

Peterborough.—Erection of a caretaker's bungalow at: (1) Eastholm Secondary Girls' School; and (2) Werrington County Primary School, for Joint Education Board. Applications to the Surveyor to the Joint Board, Town Hall, Peterborough, by September 11. Deposit £2 2s., cheques payable to Board. Tenders by September 25.

Portsmouth.—Modernisation St. Faiths Road flats, Landport, block 37-40 (four flats), for City Council. Applications to the Director of Housing, 1 Clarence Parade, Southsea, by September 8. Deposit £1. It is a condition of tendering that the contractor shall at the date of tender have in his employment not less than one indentured apprentice to every eight craftsmen who were employed by him to the previous January 1.

Risca, Mon.—Construction of concrete bases and erection of 54 private garages within the Council Area, for U.D.C. Documents from the Engineer and Surveyor, Council Offices Risca. Deposit £3 3s. Tenders by September 12.

Southend-on-Sea, Essex.—New seating and changing rooms at Southchurch Park, for B.C., comprising the erection of steel framed and precast concrete seating, size about 135ft. by 16ft. with changing rooms under within the existing stand, and works incidental thereto. Applications to the Borough Architect, 30 Alexandra Street, Southend-on-Sea, by September 4, accompanied by details of similar works previously undertaken and names of Architects from whom references may be obtained.

Southend-on-Sea, Essex.—Restaurant to old pier head, for B.C., comprising the erection, on existing pier sub-structure, of a two-storey building comprising restaurant, lounge, cafeteria, kitchens and ancillary rooms, of steel frame and timber cladding construction and flat roof, a total of about 11,000 sq. ft. and works incidental thereto. Applications to the Borough Architect, 30 Alexandra Street, Southend-on-Sea, by September 7, accompanied by details of similar works previously undertaken and names of architects from whom references may be obtained.

Stroud, Glos.—Construction of approximately 3,500 sq. ft. of workshops, stores, etc., within existing prefabricated concrete frames at London Road depot for U.D.C. Applications to the Engineer and Surveyor, Council Chambers, High Street, Stroud. Tenders by Sept. 23.

Taunton, Som.—External rendering to 98 houses, Musgrove estate, for B.C. Documents from H. G. Cox, housing maintenance superintendent, Lambrook Farm Depot, Priory Avenue, Taunton. Tenders by Sept. 19.

Taunton, Som.—One or both of the following works, for B.C. Provision and installation of 124 washbasins and 86 baths, Lambrook estate; provision and installation of 97 washbasins and 103 baths, Wedlands estate. No decoration is involved. Documents from H. G. Cox, housing maintenance superintendent, Lambrook Farm Depot, Priory Avenue, Taunton. Tenders by September 5.

Taunton, Som.—External rendering to 98 houses, Musgrove estate, for B.C. Documents from H. G. Cox housing maintenance superintendent, Lambrook Farm Depot, Priory Avenue, Taunton. Tenders by September 9.

Twickenham, Middx.—Supply and erection of a greenhouse 41ft. by 14ft. at York House Gardens, for B.C. Documents from the Borough Engineer, Municipal Offices, Twickenham. Tenders by Sept. 13.

Wallingford, Berks.—Alteration, improvement and repair at the Cemetery Lodge, Shillingford Road, for Wallingford and Sotwell Joint Burial Committee. Documents from L. Bullen, clerk of the Committee, Municipal Offices, High Street, Wallingford. Tenders by September 11.

Warwickshire.—Coventry-Leicester trunk road, A.46, construction of approximately 53 sq. yd. of brick-faced concrete retaining wall and 98 sq. yd. of 9in. brick boundary wall at Shilton. Documents from David Watson, county surveyor, Shire Hall, Warwick. Deposit £2. Tenders by Sept. 11.

Wem, Salop.—Improvements to four houses, 1-4 South View, Rack Lane, Whixall, for R.D.C. Documents from C. H. Jeffery surveyor, Council Offices, Wem. Tenders by Sept. 13.

West Hartlepool, Dur.—Erection of the first phase of the college of further education, sited in the central area, for B.C. The scheme consists of a single-storey workshop block and a five-storey laboratory block, together with a gymnasium block. The floor area of the workshop block is approximately 18,000 sq. ft. and the floor area of the five-storey block and gymnasium block is approximately 56,500 sq. ft. Documents from the offices of the Borough Architect, Municipal Buildings, West Hartlepool. Tenders by Oct. 30.

West Riding.—Re-erection of dry stone wall and provision and erection of concrete post and chain link fence at Settle High School for C.C. Documents from Divisional Architect, Salisbury Buildings, Albert Street, Harrogate. Tenders by Sept. 19.

***Workshop, Notts.**—Brick building to house chlorination plant at Manton Colliery for B.C. Deposit £3 3s. Tenders by Sept. 18.

West Riding.—Renewal of Terrazzo floors to corridors at Skelmanthorpe Secondary School for C.C. Documents from A. Beardsell, 35 Kirkgate, Huddersfield. Tenders by Sept. 8.

West Riding.—Internal painting at the County Welfare Institution, Stanley View, Wakefield, for C.C. Applications to the County Architect, Bishopgarth, Westfield Road, Wakefield. Tenders by Sept. 25.

West Riding.—Following work for C.C.: Settle High School—re-laying of paths; Low Bentham Central kitchen—internal painting; Slaidburn Endowed School—internal painting; Slaidburn Town Head canteen—internal painting. Documents from D. Matthew, divisional education officer, Education Office, Water Street, Skipton. Tenders by Sept. 11.

Wirral, Ches.—Construction of public conveniences off Riverbank Road, Heswall, for U.D.C. Applications to the Engineer and Surveyor, Council Offices, Heswall. Tenders by Sept. 8.

Wortley, Yorks.—Erection of public conveniences at Chapeltown and Stannington, for R.D.C. Documents from Arthur Wikeley, engineer and surveyor, Council Offices, Grenoside, Sheffield. Tenders by September 8.

***Wrexham, Denbighs.**—Erection of garages and demolition of dwellings, for B.C. Deposit £1 1s. each. Tenders by September 14.

CLOTHING AND TEXTILES

Bath.—Supply of fire brigade and ambulance service clothing as follows for City Council: (1) 146 blue shirts; (2) 15 white shirts; (3) 156 black ties. Documents from the Chief Fire Officer, Central Fire Station, Bath. Tenders by Sept. 6.

Nottinghamshire.—Supply of tunics and trousers for ambulance service personnel for C.C. Documents from the County Medical Officer, Shire Hall, Nottingham. Tenders by Sept. 8.

DEMOLITION

Cambridgeshire.—Demolition of the property known at 8 Hall Street, Soham, for C.C. The property is to be demolished and completely removed, all materials to become the property of the contractor. Documents from the County Surveyor, Shire Hall, Cambridge. Tenders by September 11.

Evesham, Worcs.—Demolition of property in Bowdley Street and Littleworth Street for B.C. Documents from J. Hodson, borough surveyor, 106 High Street, Evesham. Deposit £2 2s. Tenders by Sept. 15.

Gainsborough, Lincs.—Demolition and clearing of a number of buildings at the rear of the Council Offices for U.D.C. Documents from the Engineer and Surveyor, Council Offices 6 Lord Street, Gainsborough. Tenders by Sept. 7.

Nottingham.—Bosford pumping station, house 3—demolition and disposal of beam pumping engine, boilers and other appurtenant work for City Council, comprising breaking-up and removing a beam pumping engine and boilers at Bosford Waterworks in the city of Nottingham. Documents from B. W. Davies, engineer and general manager,

Water Department, Castle Boulevard, Nottingham. Deposit £2 2s. Tenders by Sept. 18.

Sheffield, Yorks.—Park Hill redevelopment scheme for City Council. Complete demolition and site clearance of St. Lukes School in Granville Street. Documents from the Estates Surveyor, Town Hall, Sheffield, 1. Deposit £2 2s. Tenders by Sept. 11.

Spenborough, Yorks.—Demolition of houses and property in Crossley Yard and Northgate, Cleckheaton, for B.C. Specifications from the Borough Engineer, Spenborough Town Hall, Cleckheaton. Tenders by September 8.

Tipton, Staffs.—Demolition of club premises at the corner of Canal Street and Union Street, for B.C., consisting of one-, two- and three-storey buildings. Documents from the Borough Engineer and Surveyor, Municipal Buildings, Sedgeley Road West, Tipton. Deposit £2 2s. (cheque payable to Corporation) Tenders by Sept. 6.

West Riding.—Demolition and removal of public air raid shelters and pillbox wardens post and reinstatement works at the following sites, for C.C. Public air raid shelters site 1, 2 and 31, Victoria Street, Goole, site 6 and 7, Weatherill Street, Goole. Pillbox wardens post, Weatherill Street, Goole (adjacent to 7). Documents from the Divisional Architect, Planet Road, Adwick-le-Street. Tenders by September 18.

ELECTRICAL

Bath.—Rewiring the whole of the lighting installation and wiring new socket outlets in 88 pre-war flats at Kingsmead, for City Council. Documents from the City and Waterworks Engineer, Guildhall, Bath. Deposit £2 2s. Tenders by September 6.

Belfast.—Following for City Council: (a) Complete electrical installation in old section of Seaview Primary School, Seaholme Parade; (b) supply, delivery and fixing of metal windows, etc., at Somerdale Secondary School, Somerdale Park. Documents from City Architect's Department, 40 Academy Street, Belfast, 1. Tenders by Sept. 21.

Dublin, Eire.—Installation of electrical services in the new Technical Administration and Staff Catering Building at Dublin Airport, for the Department of Transport and Power. Documents from Department of Transport and Power, Kildare Street, Dublin, 2. Deposit £15. Tenders by September 15.

Gravesend, Kent.—Electrical improvements to 955 houses on Westcourt, Northcourt and King's Farm estates, for B.C. Documents from Borough Engineer and Surveyor, 6 Woodville Terrace, Gravesend. Tenders by September 25.

Witney, Oxon.—Electrical installation improvements in 17 pre-war council houses at Walnut Row and Meadow End, Fulbrook, for R.D.C. Documents from Engineer and Surveyor, 28c High Street, Witney. Tenders by September 13.

FENCING

Hampshire.—Taking down part of the existing brick parapet walls of Redpost railway bridge, Abbots Ann, and providing and erecting metal fencing, for C.C. Applications to H. N. Jenner, County surveyor, The Castle, Winchester, by September 4.

Leatherhead, Surrey.—Provision and erection of about 700yd. of 6ft. chain link fencing at sewage works for U.D.C. Documents from the Engineer and Surveyor's Department Red House, Leatherhead. Tenders by Sept. 11.

Oldbury, Worcs.—Supply and erection of approximately 900yd. of 5ft. high chain link fencing at Brandhall Primary Schools, for B.C. Documents from the Borough Engineer and Surveyor, Municipal Bank Chambers, Oldbury. Tenders by Sept. 11.

Ramsey, Hunts.—Contractors for the erection of 400 lin. yd. (approximately) concrete posts and chain link fencing at Station Road, Ramsey, for U.D.C. Documents from the Surveyor, Council Offices, 3 Bury Road, Ramsey, Huntingdon. Tenders by Sept. 16.

GAS AND WATER SUPPLY

***Anglesey.**—Laying pipes, for C.C. Tenders by October 3

Carrick-on-Suir, Tipperary, Eire.—Water supply improvement scheme (contract 2) for U.D.C., including: (1) The construction of intake works at Crotty's Lough, together with the laying of approximately 133yd. of 4in. and 2in. hard p.v.c. pipe; (2) laying approximately 1,820 lin. yd. 8in. or 9in. a.c. main; (3) scraping approximately 3,334yd. 3in. c.i. main; (4) various ancillary works. Documents from Michael Cantrell, of Nicholas O'Dwyer, Son and Partners, consulting engineers, 6 Burlington Road, Dublin, 4. Deposit £10 10s. Tenders by Sept. 21.

Cemaes, Pems.—Crymmych improvement scheme and water supply extensions, 1961, for

R.D.C., including excavating and refilling trenches in roads and fields, and supplying, laying and jointing approximately 14,000 lin. yd. of 3in. diameter, 5,200 lin. yd. of 2in. diameter and 500 lin. yd. of 1½in. diameter asbestos-cement pipes, together with appurtenant fittings; the construction of a 20,000-gallon mass concrete reservoir, and pump house, and the installation of pumping plant, together with the necessary fencing. Documents from R.D.C. Offices, Grosvenor Hill, Cardigan, or from J. Owen Parry, Lewis and Partners, consulting engineers, Arcade Chambers, Ammanford. Deposit £5 cheque, payable to R.D.C. Tenders by Sept. 13.

Colchester, Essex.—Development of Bowden's Borehole, for Colchester and District Water Board. Development of this existing 27in. chalk borehole. The work will comprise removal of debris, lining with slotted steel tubes, treatment with acid, and test-pumping at rates up to 100,000 g.p.h. Documents from John B. Francis, engineer to the Board, Balkeine Hill, Colchester. Deposit £2 2s. Tenders by September 11.

Cork, Eire.—Construction of extension to Castletownroche water supply from Shenakilia to near Cleonor National School for C.C. The work consists of laying 3,150 lin. yd. of 4in. class B main and 2,850 lin. yd. of 3in. class B main in either asbestos cement or polyvinyl chloride piping, together with all ancillary valves and fittings. Documents from County Council Offices, Annabella, Mallow, on payment of £1 (not returnable). Deposit £10 10s. Tenders by Sept. 20.

Downpatrick, Down.—Laying of approximately 417 lin. yd. of 3in. diameter p.v.c. water main at Stable Road, Crossgar, for R.D.C. Documents from the Engineer's Office, Quoile Road, Downpatrick. Tenders by Sept. 8.

Ellesmere, Salop.—Water supply to southern area, contract 4, for R.D.C. Deposit £5 5s. Tenders by September 29.

Reading, Berks.—Blewbury Pumping Station: New borehole (No. 4) for Thames Valley Water Board, including the sinking and test pumping of a 24in./21in. normal diameter borehole, approximately 200ft. deep. Documents from the office of the Engineer and Manager, 16-20 The Forebury, Reading. Deposit £3 3s. Tenders by Sept. 18.

Seaton, Devon.—Pumping equipment, Holyford works, contract 52, for East Devon Water Board. Tenders by September 25.

South Cardiganshire.—Mainlaying contracts 54 and 55, for Water Board. Deposit £3 3s. Tenders by September 25.

Staffordshire.—Tittesworth reservoir scheme (contract 54): Main buildings for water treatment plant for Potteries Water Board, including construction of a reinforced concrete brick and stone building incorporating clear water pump house, administrative block and chemical house; a reinforced concrete, brick and stone raw water pump house, together with access roads, drainage and ancillary works, at Tittesworth Reservoir, the entrance road to the reservoir being about two miles north of Leek, on the main Leek-Buxton road, A.53. Documents from C. V. Brown, engineer and manager and clerk to the board, Albion Street, Hanley, Stoke-on-Trent. Deposit £5 5s. Tenders by Sept. 19.

Stockport, Ches.—Goyt Valley supply, construction of control house and wellhead chambers, contract N, for Corporation waterworks, including construction of a control house to house the circuit breaker starters, and metering equipment required in connection with the Goyt Valley boreholes and of two reinforced concrete wellhead chambers situated at the top of the boreholes. Applications to G. H. Hill and Sons (Manchester), civil engineers, 51 Mosley Street, Manchester. 2. Deposit £5 5s., cheque payable to G. H. Hill and Sons (Manchester). Plans also seen at the office of the Water Engineer and Manager, Town Hall, Stockport. Tenders by Sept. 5.

HEATING AND VENTILATING

Belfast.—Heating, plumbing and electric lighting services at Arlington House, Windsor Avenue, for Ashleigh House School. Documents from Barrett and Agnew, consulting engineers, 423 Ravenhill Road, Belfast. Deposit £5 5s. Tenders by Sept. 15.

Blackpool, Lancs.—Supply and installation of oil-burning equipment, including oil-fired boiler, radiators and pipework, etc., at the Coleridge Road Depot for Fylde Water Board. Documents from the Engineer to the Fylde Water Board, Sefton Street, Blackpool. Tenders by Sept. 15.

Bridlington, Yorks.—Heating, and/or electrical installations at Lloyd Hospital, for Leeds Regional Hospital Board. Apply by Noon September 6. Deposit £2 2s. Tenders by October 2.

Witney, Oxon.—Installation of bathrooms and hot water systems in 17 pre-war Council houses at Walnut Row and Meadow End,

Fulbrook, for R.D.C. Documents from Engineer and Surveyor, 28c High Street, Witney. Tenders by September 13.

HOUSING SCHEMES

Banchory, Kincardines.—Block of four British Legion houses at St. Terner's Place, Banchory. Documents from Jenkins and Marr, architects, 3 Bon-Accord Crescent, Aberdeen. Tenders by September 12.

Belfast.—Sixteen type H houses at Mountcollyer Street for City Council. Documents from the City Architect's Department, Housing Section, 97 Townsend Street, Belfast, 13. Deposit £5, cheques payable to Corporation. Tenders by Sept. 5.

Cardiff.—Three detached dwellings at the Teacher Training College, Cyncoed, in three contracts as follows for City Council: (a) Detached house for the principal; (b) detached house for the vice-principal; (c) detached bungalow for the caretaker. Documents from the City Architect's Department, Municipal Offices, Grefyriars Road, Cardiff. Deposit £2 2s., cheques payable to Corporation. Tenders by Sept. 28.

Castlereagh, Down.—Two bungalows and ancillary works at Rosewood Park for R.D.C. Documents from the Council Offices, 368 Cregagh Road, Belfast, 6. Deposit £3. Tenders by Sept. 7.

Felling, Dur.—Eighteen traditional bungalows, together with all services and external works, at Keir Hardie Avenue, Ellen Wilkinson estate, Wardley, for U.D.C. Documents from R. Morton, surveyor, Council Buildings, Felling, Gateshead, 10. Deposit £2 2s. Tenders by Sept. 11.

Heston and Isleworth, Middx.—Thirty-six flats, 32 houses and 68 garages, Whitton Dene/Hall Road, for B.C. Deposit £2 2s. Tenders by September 27.

Hove, Sussex.—Fifty-two flats in Hardwick Road for B.C. Applications to Borough Engineer and Surveyor, Town Hall, Hove, by 10 a.m., Sept. 11. Deposit £3 3s. Tenders by Oct. 23.

Isle of Ely.—Pair of police houses, with garages and outbuildings, at Thorney, for Standing Joint Committee. The houses are 960 sq. ft. each, and of traditional construction. The site is on the A.47 in the centre of the village. Submit names to the County Architect, County Hall, March, Cambs., by September 9. Deposit £2 2s.

Linsey.—Following for C.C.: (i) Alford, Park Lane—one pair of semi-detached police houses; (ii) Horncastle, Lincoln Road—two pairs semi-detached police houses. Each contract will be separate and tenders may be submitted for one or both of the contracts. Documents from A. Ronald Clark, county architect, Council Offices, Lincoln. Tenders by Sept. 11.

Liverpool.—Twelve maisonnettes, Byles Street-Brancor Street, for City Council. Documents from City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2. Deposit £2 2s., payable to City Treasurer. Tenders by Sept. 6.

Mildenhall, Suffolk.—Any one or more of the following housing contracts, for R.D.C.: (a) Ten pairs of bungalows and three pairs of houses, Queens Road estate, Brandon; (b) two pairs of houses, Church Lane Close, Barton Mills; (c) two pairs of bungalows, Highwood Road, Gazeley; (d) two pairs of bungalows, Herringswell Road, Kentford; (e) two pairs of houses, High Street, Lakenheath; (f) one pair of houses and two pairs of bungalows, Wingfield Road, Lakenheath; (g) two pairs of bungalows, Bunbury Avenue, Mildenhall; (h) two pairs of houses, The Street, Worlington. Documents from the Engineer and Surveyor, Council Offices, King Street, Mildenhall. The above works will constitute separate contracts and contractors should state which contract they require documents for. Tenders by September 15.

Nantwich, Ches.—Following for R.D.C.: (a) One block comprising two one-bedroom and one two-bedroom bungalows at Brassey Bank, Woolstanwood; (b) one block of four single-bedroom bungalows at Sound, near Nantwich. Documents from the Engineer and Surveyor, Stapeley House, Nantwich. Deposit £2 2s. each. Tenders by Sept. 20.

Northern Ireland.—One hundred and ninety-six dwellings and 54 garages, together with ancillary and engineering works at Antrim (Crumlin Road), 2nd development, for Housing Trust. Documents from the offices of the Trust, 12 Hope Street, Belfast, 12. Deposit £3. Tenders by September 19.

North Lonsdale, Lancs.—Two pairs of two-bedroom bungalows at Windermere Road, Lindale-in-Cartmel, for R.D.C. Documents from the Council's Architectural Officer, Todbusk, Ulverston. Tenders by Sept. 26.

Portsmouth.—One hundred and sixty dwellings and 34 garages, Prospect Farm, Leigh Park, for City Council. Applications to the City Architect, 1 Western Parade, Portsmouth, by Sept. 4. Deposit £1.

Ramsey, Hunts.—Six houses and 12 self-contained flats on the School Lane site for U.D.C. Applications to Pick, Everard, Keay and Gimson, architects, 6 Millstone Lane, Leicester Deposit £3 3s., payable to U.D.C. Tenders by Sept. 18.

Richmond, Surrey.—Thirteen one-bedroom bungalows on land off Thompson Avenue, for B.C. Documents from the Borough Engineer's Office, King's Road, Richmond, on and from Sept. 4. Deposit £2 2s. Tenders by Oct. 2.

Ross-on-Wye, Heres.—Fourteen houses at Three Crosses estate, for U.D.C. Apply by September 7. Deposit £2 2s. Tenders by September 28.

Salé, Ches.—Roebuck Lane and Hollins Grove development contract 2/1961, for B.C., including the following: (a) Two two-storeyed blocks totalling 32 aged persons' flatlets and including warden and communal accommodation, two two-storeyed blocks totalling 16 flats, also ancillary and minor road works; (b) one two-storeyed block containing eight flats on a site approximately ¼-mile distance from (a). Documents from the Borough Engineer's Department, Town Hall, Sale. Deposit £2 2s. Tenders by September 15.

Salé, Ches.—Thirty-seven aged persons' bungalows, contract 3/1961, for B.C. Documents from the Borough Engineer's Department, Town Hall, Sale. Deposit £2 2s. Tenders by Sept. 15.

Shrewsbury, Salop.—Eight bungalows at Coton Hill estate for B.C. Documents from the office of the Borough Surveyor, Guildhall, Shrewsbury. Deposit £2 2s. Tenders by Sept. 20.

Taunton, Som.—Eleven traditional type dwellings, together with outbuildings and external works on the Lane estate, for B.C. Applications to C. Bacon, borough architect, Flook House, Station Road, Taunton, by Sept. 2. Deposit £2 2s.

Taunton, Som.—Fourteen traditional type dwellings, together with outbuildings and external works on the Priorswood estate, for B.C. Applications to C. Bacon, borough architect, Flook House, Station Road, Taunton, by Sept. 2. Deposit £2 2s.

Taunton, Som.—Six flats, eight houses, eight garages on the Sunnybank housing site for B.C. Applications to Kenneth Steel and Hadley Coleman, chartered architects, 7 The Crescent, Taunton, by Sept. 2. Deposit £2 2s.

Wellingborough, Northants.—One pair of bungalows, type 1, together with incidental works, at High Street, Bozeat, for R.D.C. Documents from C. L. Hanwell, surveyor, Rural Council Offices, 20 Oxford Street, Wellingborough. Deposit £2 2s. Tenders by Sept. 9.

Worcester.—Ten dwellings, Powell's Row redevelopment area, St. John's, for City Council, comprising traditional brick-built two-storey blocks of one-bedroom flats. Documents from City Engineer and Surveyor, 22 Bridge Street, Worcester. Deposit £3 3s. (cheques payable to Worcester Corporation). Tenders by Sept. 18.

MATERIALS AND SUPPLIES

Ashton-in-Makerfield, Lancs.—Supply and delivery to the Council's Depot of 2,000 galvanised dustbins and covers of 24 cu. ft. capacity, to British Standard Specification 792/47, for U.D.C. The dustbins to be delivered in lots of 500. Applications to the Chief Public Health Inspector, Public Health Department, Town Hall, Ashton-in-Makerfield. Tenders by Sept. 15.

Basildon, Essex.—Supply of refuse bins, for Development Corporation.

Belfast.—Supply and delivery of the following for City Council: (a) 10,000 dustbins, and (b) 200 litter receptacles. Documents from the City Surveyor's Cleansing Section, 16 Ormeau Avenue, Belfast, 2. Tenders by Sept. 18.

Blackpool, Lancs.—Supply and delivery of Accrington selected common engineering bricks for the period ending Aug. 31, 1962, for Fylde Water Board. Documents from the Engineer to the Fylde Water Board, Sefton Street, Blackpool. Tenders by Sept. 7.

Flintshire.—Supply and delivery of tyres, tubes and remoulds for C.C. Documents from County Surveyor, Llwynegryn, Mold. Tenders by Sept. 11.

Leeds.—Supply of plastic press cloths to Knostrop sewage works, for City Council. Documents from D. Currie, city engineer, Civic Hall, Leeds 1. Tenders by September 15.

Leyton, Essex.—Supply and delivery of 14 cu. yd. capacity galvanised steel refuse containers and lids for B.C. Applications to the Borough Engineer, Town Hall, Leyton, E.10. Tenders by Sept. 11.

Sheffield.—Supply of electric lamps to all departments of the Corporation from Oct. 1, 1961, for City Council. Applications to the Town Clerk, Town Hall, Sheffield. Tenders by Sept. 8.

PLANT AND MECHANICAL TRANSPORT

Ashton-in-Makerfield, Lancs.—Supply of a Karrier Gamecock dual-tip refuse collection vehicle and trailer for U.D.C. Documents from Frank Dean, clerk of the Council, Town Hall, Ashton-in-Makerfield. Tenders by Sept. 15.

Belfast.—Supply and delivery of mechanical excavator for City Council. Documents from Parks and Cemeteries Department, Botanic Gardens Park, Belfast. 7. Tenders by Sept. 13.

Birkenhead, Ches.—Refuse and general haulage vehicles for B.C. Documents from Cleansing Superintendent, Central Depot, Cleveland Street, Birkenhead. Tenders by Sept. 13.

Bournemouth, Hants.—Supply lawn mower grinding machine, for B.C. Tenders by October 6.

Bournemouth, Hants.—Supply plant, for B.C. Tenders by October 6.

Croydon, Surrey.—Supply of one 400/500 g.p.m. pump/foam tender mounted on a Bedford T.K. 132in. chassis for B.C. Specification from the Chief Fire Officer, Old Town, Croydon. Tenders by Sept. 30.

Dunbartonshire.—Supply of a 12/16 cu. yd. diesel powered side-loading cleansing wagon, with crew cab for four, for C.C. Price should include painting and lettering to requirements and delivery to Cumbernauld. The District Council do not bind themselves to accept the lowest or any tender. Tenders to be addressed to Cumbernauld District Council, Council Chambers, Main Street, Cumbernauld, marked "Tender for Cleansing Wagon", by September 25.

Evesham, Worcs.—Supply of an Eagle Compressor refuse collection vehicle on a Ford or B.M.C. six-cylinder diesel engine chassis, included in which an old refuse vehicle has to be taken in part exchange for R.D.C. Documents from the Engineer and Surveyor, Lansdowne, Port Street, Evesham. Tenders by Sept. 11.

Holland.—Supply of the following for C.C.: (a) Miscellaneous plant; (b) motor vehicles. Documents from County Surveyor, County Hall, Boston, Lincs. Tenders by Sept. 7.

Isle of Wight.—Supply of one new 5-ton long wheelbase tipping lorry with diesel engine for the Isle of Wight Water Board. Documents from the Engineer and Manager, Isle of Wight Water Board, St. Nicholas, 58 St. John's Road, Newport, I. of W. Tenders by Sept. 11.

Stockport, Ches.—Supply and delivery of one new Fordson super major tractor for B.C. Documents from Borough Surveyor, Town Hall, Stockport. Tenders by Sept. 18.

Surrey.—Purchase of 22 Commer and B.M.C. vans. Documents from the County Engineer, Highways and Bridges Department, County Hall, Kingston-upon-Thames.

Swadlincote, Derbys.—Supply and delivery of one diesel-engined road sweeping machine for U.D.C. Documents from the Engineer and Surveyor, Bank House, Swadlincote. Tenders by Sept. 11.

Warrington, Lancs.—Supply of one 5/7-ton tilt trailer suitable to move bulldozers or plant, for R.D.C. Tenders in plain sealed envelopes marked "Tilt Trailer" to H. A. Mortimore, clerk of the Council, Council Offices, Museum Street, Warrington, by Sept. 6.

PLAYING FIELDS, PARKS, ETC.

Bolton, Lancs.—Construction of playing fields at New House Farm, Darcy Lever, for B.C., comprising the regrading and seeding of approximately 64,500 sq. yd., together with sub-soil drainage, etc. Documents from the Borough Engineer, Town Hall, Bolton. Tenders by Sept. 18.

Chester.—Recreation Ground, Handbridge: Construction of a children's playground, fencing, clearing and grassing of the adjacent open space, and other ancillary works for City Council. Documents from the City Engineer, 49 Northgate Street, Chester. Tenders by Sept. 9.

Corby, Northants.—Construction of a six-rink bowling green, together with all earthworks, and ancillary works, for U.D.C. Documents from G. B. Blackall, clerk of the Council, Council Offices, Corby. Deposit £1, cheques payable to U.D.C. Tenders by Sept. 6.

Oldham, Lancs.—Construction of an all weather pitch at Holy Rosary Primary School playing field, Fitton Hill, for B.C. Deposit £2 2s. Tenders by September 13.

Thornton Cleveleys, Lancs.—Drainage, cultivation and construction of a children's playground, together with a grassed playing area and a small garden area, at Butts Road, Thornton, for U.D.C. Documents from J. E. Porter, engineer and surveyor, Council Offices, Thornton Cleveleys, Blackpool. Deposit £2 2s. Tenders by Sept. 6.

RIVER AND FLOOD PREVENTION WORKS

***Port Talbot, Glam.**—River Neath abstraction scheme, contract 2, for B.C. Deposit £10. Tenders by October 2.

***Port Talbot, Glam.**—River Neath abstraction scheme, contract 1, for B.C. Deposit £10. Tenders by October 2.

***West Sussex.**—Sheet pile wall at Southwick, for C.C. Deposit £5 5s. Tenders by September 28.

ROADS, BRIDGES AND SITE WORKS

Aberdeenshire.—Laying of approximately 18,000 sq. yd. of single-course hot-rolled asphalt at the undermentioned sites for C.C.: (a) Watermill Road, College Bounds and High Street, Fraserburgh trunk road (route A.98); (b) Mintlaw Roundabout (route A.92). Documents from the County Surveyor, 4 Albany Place, Aberdeen. Tenders by Sept. 12.

***Ashton-under-Lyme, Lancs.**—Private street works for B.C. Tenders by Sept. 22.

Aylesbury, Bucks.—Site works, comprising concrete base slabs, aprons, tarmac forecourt, and drives and drainage work in connection with the provision of 10 garages off Eskdale Road, Stoke Mandeville (garages not to be included) for R.D.C. Documents from T. J. Ridley, architect, of Raymond White and Ridley, chartered architects, 4 Temple Square, Aylesbury. Tenders by Sept. 19.

***Baildon, Yorks.**—Highway surfacing, for U.D.C. Tenders by September 18.

***Basildon, Essex.**—Road four—phase 11, contract E.153, for Development Corporation. Deposit £5 5s. Tenders by September 21.

***Bedfordshire.**—Widening Amptill to Todington road, for C.C. Deposit £2. Tenders by September 15.

***Bedfordshire.**—Widening etc., Church Street, Dunstable, for C.C. Deposit £2. Tenders by September 15.

Belper, Derbys.—Realignment and widening of part of Queen Street and The Fleet for U.D.C., comprising demolition of buildings, clearing, surface water drainage, earthworks, construction of masonry walls, carriageway and footpaths, and culverting of 12ft. wide brook. The length of carriageway to be realigned and widened is approximately 200yd. Documents from the Engineer and Surveyor, Council Offices, King Street, Belper. Deposit £2, cheques payable to U.D.C. Tenders by Sept. 23.

Bentley-with-Arksey, Yorks.—Resurfacing and re-laying of paving and kerbs—Arksey Lane, The Avenue and Victoria Road, Bentley, and incidental work in connection therewith, for U.D.C. Documents from the office of the Engineer and Surveyor, Council Offices, Cooke Street, Bentley. Deposit £2 2s. Tenders by September 12.

***Berkshire.**—Making-up Gordon Road, etc., for C.C. Deposit £2 2s. Tenders by Sept. 18.

***Bilston, Staffs.**—Reconstruction of Lichfield Street, contract 268, for B.C. Deposit £2 2s. Tenders by September 11.

***Birmingham.**—Construction of carriageway, etc., Nechells Green redevelopment area, units 13 and 28, for City Council. Deposit £2 2s. Tenders by September 20.

Bridgwater, Som.—Surface dressing of roads, 1961-62, for B.C., including hot tar surface dressing of approximately 31,800 sq. yd. of carriageway. Documents from the Borough Engineer, Town Hall, Bridgwater. Deposit £2 2s. Tenders by Sept. 11.

Bromsgrove, Worcs.—Laying garden footpaths with precast paving slabs on three existing housing estates for U.D.C. The extent of the work is about 1,200 super. yd. Documents from the Housing Manager, Council House, Bromsgrove. Tenders by Sept. 11.

Buckinghamshire.—Construction of new car parking area at Woburn Sands branch library for C.C. Documents from the County Architect, County Offices, Aylesbury. Tenders by Sept. 25.

Burton-upon-Trent, Staffs.—Reconstruction of Horninglow Street and Bridge Street for B.C., including kerbing, channelling, paving, excavation, the provision of new foundations, resurfacing, and ancillary works, involving approximately 1,000yd. of road. Documents from the Borough Surveyor, Town Hall, Burton-upon-Trent. Tenders by Sept. 22.

***Canterbury, Kent.**—Provision of second carriageway in St. George's Lane for City Council. Tenders by Sept. 18.

***Canterbury, Kent.**—Construction of access road from St. Margaret's Street for City Council. Tenders by Sept. 18.

Chingford, Essex.—Minor road improvements and resurfacing works for B.C.: (a) Rangers Road, A.1069; (b) Larkshall Road, B.160; (c) Kings Road, A.110. The works comprise the raising and re-laying of kerb and resurfacing with bituminous concrete and rolled asphalt approximately 4,700 sq. yd. of carriageway, together with footway, minor drainage, and incidental works. Documents

from the Borough Engineer, Town Hall, E.4. Deposit £2 2s. Tenders by Sept. 13.

***Colwyn Bay, Denbighs.**—Improvement scheme, Clobryn Road to Tanrallt Road, Llandudlas, for B.C. Deposit £5 5s. Tenders by Oct. 31.

***Crayford, Kent.**—Old Road improvement for U.D.C. Deposit £2 2s. Tenders by Sept. 13.

Deal, Kent.—Making-up Kelvedon Road for B.C., including the construction of a hardcore base carriageway surfaced with tarmacadam approximately 630 sq. yd., flagged footways, and ancillary works. Documents from the Borough Engineer, Municipal Offices, Queen Street, Deal. Deposit £2 2s. Tenders by Sept. 18.

Edinburgh.—Asphalt paving works, phase IV, 1961/62, for City Council. Documents from the City Engineer, 329 High Street. Tenders by September 13.

***Ely, Cambs.**—Road and sewer works, Priors Court housing site, for U.D.C. Deposit £2 2s. Tenders by Sept. 18.

Fairbairn, Lancs.—Brierley Avenue (road extension), for U.D.C., including construction of approximately 340yd. of road between the existing length of Brierley Avenue and Ashton Road East. The works comprise excavation, surface water sewerage, construction of 24ft. reinforced concrete carriageway, flagged footways and macadamised verges, over a total width of 54ft., street lighting, and incidental works. Documents from the Engineer and Surveyor's Office, Town Hall, Fairbairn, near Manchester. Deposit £2 2s. Tenders by September 16.

***Fareham, Hants.**—Private street works for U.D.C. Deposit £2 in each instance. Tenders by Sept. 21.

***Gloucester.**—Eastern Avenue reconstruction for City Council. Deposit £2 2s. Tenders by Sept. 19.

***Gloucester.**—Completion of inner ring road (old cattle market site) for City Council. Deposit £2 2s. Tenders by Sept. 19.

***Gloucestershire.**—Extension of Grovesend Tunnel, trunk road, A.38, for C.C. Deposit £10. Tenders by September 26.

Hastings, Sussex.—Harold Road improvement, bulk excavation contract, for B.C. The work consists mainly of excavating (approximately 2,000 cu. yd.) to approximate formation levels and depositing material as described, stripping turf (approximately 600 super. yd.), some site clearance and certain ancillary works. The work to form part of an improvement scheme to be completed by the Corporation's direct labour force. Documents from the Borough Surveyor, 37 Wellington Square, Hastings. Deposit £2 2s. Tenders by Sept. 18.

Hatfield, Herts.—Surfacing Dellsome Lane estate for R.D.C., comprising the construction of approximately 650 sq. yd. of concrete carriageway; 950 sq. yd. of bitumen macadam footpaths; 3,500 sq. yd. of verges and grassed areas together with other ancillary works. Documents from the Engineer and Surveyor, North Place, 82 Great North Road, Hatfield. Deposit £2 2s. Tenders by Sept. 8.

Hazel Grove and Bramhall, Ches.—Making up and completion of Bramley Road (part of) and King's Close, Bramhall, for U.D.C. Documents from the Office of the Engineer and Surveyor, Council House, Hazel Grove. Deposit £2 2s. Tenders by September 19.

Hertfordshire.—Following for C.C.: Tipped Lane, St. Albans—road improvement works from the junction of Penn Road to the junction with the North Orbital Road, A.405. The works comprise site clearance, 3,800 cu. yd. excavation, 1,000 lin. yd. of kerbing and channelling, 4,100 sq. yd. of carriageway construction, comprising of rolled lean-mix concrete, gravel asphalt base course and asphalt wearing course, 850 lin. yd. of 12in. to 6in. diameter pipes, 1,700 sq. yd. of footway construction, 575 lin. yd. of concrete post and chain link fencing. Documents from the office of the County Surveyor, County Hall, Hertford. Tenders by Sept. 20.

Huddersfield, Yorks.—Inner Ring Road. Supply of approximately 790 lin. yd. of tubular guard rails, to be delivered to the highways Depot, Flint Street, or to sites in the centre of the town, for B.C. Applications to A. L. Percy, borough engineer and surveyor, High Street Buildings, Huddersfield. Tenders by September 18.

Huddersfield, Yorks.—Making-up of the following streets for B.C.: Brook Street, Crosland Moor; Hawthorne Terrace (part), Crosland Moor; Skelton Crescent (part), Crosland Moor; Back Blacker Road, Back Tanfield Road and Back Dorset Street, Birkby; Leslie Street, Birkby; Hunston Avenue, Lindley; Mount Avenue (part) and Roman Avenue (part), Longwood. Documents from A. L. Percy, borough engineer and surveyor, High Street Buildings, Huddersfield. Deposit £1 1s. Tenders by Sept. 11.

***Ipswich, East Suffolk.**—Asphalt surfacing works, Norwich Road, trunk road A.45

(Debden Road-Dales Road), for B.C. Tenders by Sept. 18.

***Knaresborough, Yorks.**—Private street works, for U.D.C. Deposit £2 2s. Tenders by September 18.

Leeds.—Following for City Council: (a) Private street works—kerbing, tarmacadam footpaths, and carriageways, etc., in Hill End Close, Hill End Crescent and Walker's Lane (part); (b) improvement works (light industrial area)—excavation, reinforced concrete carriage-way, kerbing, and other works on Iveson House. Documents from the Highways Engineer, 155 Kirkstall Road, Leeds, 4. Deposit £1 1s. Tenders by Sept. 7.

Leicestershire.—Widening of Leicester Road bridge, Syston, on the Leicester to Melton Mowbray road (A.607) for C.C. Documents from the County Engineer and Surveyor, County Offices, Grey Friars, Leicester. Deposit £5. Tenders by Sept. 25.

***London.**—Goswell Road widening for C.C. Deposit £3. Tenders by Oct. 9.

Luton, Beds.—Making-up of Stonegate Road (approximately 2,300 sq. yd. carriageway, 1,500 sq. yd. footpaths and ancillary works) for B.C. Documents from the Borough Engineer, Town Hall, Luton. Deposit £2 2s. (cheques payable to Corporation). Tenders by Sept. 18.

Maidenhead, Berks.—Construction of approximately 300 lin. yd. of road at Belmont Park Road for B.C., comprising surface water drainage, hardcore foundation, tarmacadam base and bituminous macadam wearing course to the carriageway; provision and laying of precast concrete kerb and Scoria block channel, precast concrete flag paving and grass verges to footways; erection of lighting columns, and all incidental works. Documents from the office of the Borough Engineer and Surveyor, 14 Craufurd Rise, Maidenhead. Deposit £2. Tenders by Sept. 13.

Maidstone, Kent.—Construction of Brunswick Street car park for B.C. Documents from the Borough Engineer, Palace Avenue, Maidstone. Tenders by Sept. 11.

Maldon, Essex.—Northend housing site, Southminster, completion of site works, for R.D.C., including the construction of approximately 3,200 sq. yd. of tarmac footpath, 1,400 lin. yd. of concrete kerbing and 2,000 lin. yd. of concrete edging, together with ancillary works. Documents from the Engineer and Surveyor, Council Offices, Wantz Road, Maldon. Deposit £2. Tenders by Sept. 18.

Market Harborough, Leics.—Supplying, machine laying and rolling approximately 6,000 sq. yd. of 1½ in. graded tarmacadam base-coat and 20,000 sq. yd. of ½ in. bituminous carpet coat, for U.D.C. Documents from the Engineer and Surveyor, Brooklands' Northampton Road, Market Harborough.

***Middleton, Lancs.**—Footpath reconstruction work for B.C. Tenders by Sept. 13.

Montgomeryshire.—Protective works to Buttington Bridge Trunk Road, A.458, situated on the River Severn, near Welshpool, and comprising a length of piling approximately 87ft., and ancillary works for C.C. Documents from the County Surveyor, County Offices, Welshpool. Deposit £2. Tenders by Sept. 5.

Nottingham.—Following for City Council: (a) Supply and delivery of hot rolled asphalt (granite aggregate); (b) supply, delivery and lay hot rolled asphalt (granite aggregate). Documents from the City Engineer, Guildhall, Nottingham. Tenders by Sept. 5.

Nottingham.—Construction of roads and sewers at Sandhurst Road, Bulwell, for City Council, comprising approximately 13,200 super. yd. of roadways and paths and approximately 1,200 lin. yd. of sewers. Documents from the City Engineer, Guildhall, Nottingham. Deposit £2 2s. Tenders by Sept. 14.

Ormskirk, Lancs.—Making-up of part of Colindander Gardens, Ormskirk, for U.D.C. The works comprise approximately 800 sq. yd. of bituminous macadam surfacing on existing foundations and the excavation and construction of 430 sq. yd. of carriage-way with flagged footpaths, kerbing, channeling and ancillary work. Documents from the Surveyor, Council Offices, Burscough Street, Ormskirk. Tenders by Sept. 16.

Preston, Lancs.—Resurfacing of Blackpool Road, from Pedders Lane to Bristow Avenue in 3 in. two-coat hot rolled asphalt for B.C. Documents from the Borough Engineer and Surveyor, Municipal Buildings, Preston. Deposit £2 2s. Tenders by Sept. 11.

***Reading, Berks.**—Private street works at Sand Road, for B.C. Deposit £2 2s. Tenders by October 4.

Ripley, Derbys.—Carpet coating of carriageways for U.D.C. Documents from H. Hillier, surveyor, Town Hall, Ripley. Tenders by Sept. 11.

St. Faith's and Aylsham, Norfolk.—Following roadworks for R.D.C.: (a) Hevingham:

Pound Close—approximately 200ft.; (b) Sprowston: Rayns Close—approximately 194ft. Documents from the Housing Officer, Tudor Hall, Rose Lane, Norwich, Norfolk, NOR 11b. Tenders by Sept. 11.

Sandown-Shanklin, I. of W.—Reconstructing and making-up Vinings Road, Sandown, including the surfacing of carriageway and footpaths with tarmacadam asphalt and surface tarring, together with foundations, excavation works, etc., for U.D.C. Documents from the Surveyor's Office, Town Hall, Sandown, I. of W. Deposit £2 2s. Tenders by Sept. 5.

Shannon Airport, Eire.—Construction of taxiways at runway 23, Shannon Airport, including the construction of 11,072 sq. yd. of concrete pavement mainly 16 in. thick, excavation, drains, etc., for Department of Transport and Power. Applications to Department of Transport and Power, Kildare Street, Dublin, 2. Deposit £5. Tenders by Sept. 11.

***Somerset.**—Roadworks near Weston-super-Mare, for C.C. Deposit £2. Tenders by September 25.

Spenborough, Yorks.—Following at Brookfield View Avenue and Terrace, Cleckheaton, for B.C., carrying out roadworks and surface water drainage, comprising approximately 300 lin. yd. of 5 in. by 10 in. p.c.c. edging, 250 lin. yd. 6 in. by 5 in. p.c.c. edging; 710 sq. yd. 2½ in. p.c.c. flagging, 2,160 sq. yd. of cold asphalt surfacing, together with 325 lin. yd. of 9 in. and 6 in. surface water sewers, manholes, etc. Documents from the office of the Borough Engineer, Spenborough Town Hall, Cleckheaton. Tenders by Sept. 7.

Staffordshire.—Making-up of service road at Leek New Road, Baddeley Green, length 12½ yd., for C.C. The work includes excavating part of the existing carriageway, laying 3 in. depth of broken stone, 3 in. bituminous macadam surfacing, concrete kerbs and channel, footpaths of 3 in. ashes and 1 in. bituminous macadam surfaced with ½ in. cold asphalt. Documents from T. H. Evans, clerk to the County Council, County Buildings, Stafford. Deposit £5. Tenders by Sept. 13.

***Stirling.**—Soil survey for the Bonnybridge and Larbert diversion, for C.C. Deposit £2. Tenders by Sept. 16.

***Stoke-on-Trent, Staffs.**—Street works and Sewers at Foxley Lane housing site, Milton, for City Council. Deposit £2. Tenders by September 6.

Stoke-on-Trent, Staffs.—Weston Road (A. 520), Meir improvement from Uttoxeter Road to Cornelious Street for City Council, consisting of the widening, reconstruction and surfacing of the carriageway and footways in bitumen macadam, fine cold asphalt (approximately 1,850 sq. yd.) and concrete flag paving, and including surface water drainage, etc. Applications to the City Engineer and Surveyor, Town Hall, Stoke-on-Trent. Deposit £3. Tenders by Sept. 13.

Sunderland, Dur.—Development of Roker Blockyard for B.C., comprising approximately 950 lin. yd. of 15 in. diameter stoneware pipe sewers, 4,700 sq. yd. of reinforced concrete carriageway, 1,200 lin. yd. of precast concrete kerb, and other ancillary works. Documents from the Borough Engineer's Department, Athenaeum Buildings, Fawcett Street, Sunderland. Deposit £2 2s. Tenders by Sept. 12.

Sutton Coldfield, War.—Following works to various classified and district roads for B.C.: (1) Reinstatement works (deposit £1): permanent reinstatement of trenches in footpaths and carriageways in the borough, following mainlaying operations; (2) kerbing and paving works (deposit £2): (a) kerbing and slab paving; and/or (b) bituminous macadam paving. It is anticipated that the works involved by both contracts will extend over a period of one year. Documents from the Borough Surveyor, Council House, Sutton Coldfield. Tenders by Sept. 12.

Sutton Coldfield, War.—Construction of builders' roads, sewers and other preparatory works at Springfield Road housing site for B.C. Briefly the works comprise the construction of 5,000 sq. yd. of carriageway, and laying of 1,250 lin. yd. of 6 in. and 9 in. sewers. Documents from the Borough Surveyor, Council Offices, Sutton Coldfield. Deposit £2. Tenders by Sept. 15.

***Wellingborough, Northants.**—Preparation of industrial site, London Road, for U.D.C. Tenders by Sept. 18.

***Wiltshire.**—Improvement of White Hart cross roads, for C.C. Deposit £2. Tenders by September 12.

***Wiltshire.**—Road improvement A.4, for C.C. Deposit £2. Tenders by September 12.

Workington, Cumb.—Construction of two main and two end abutments, two reinforced concrete end spans and the erection of a 70ft. tubular steel footbridge over the railway at High Harrington for B.C. Documents

from the Borough Surveyor, Stoneleigh, Park End Road, Workington. Tenders by Sept. 13.

York.—Making up of Lime Avenue for a length of 97 lin. yd. from its junction with Hempland Avenue, comprising re-laying of the footpath, kerb and other incidental works, for City Council, Documents from Chas. J. Minter, city engineer, surveyor and planning officer, 7 St. Leonard's Place, York. Deposit £2. cheque payable to Corporation. Tenders by September 12.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

***Benfleet, Essex.**—Tarpots intercepting sewer, contract 3, for U.D.C. Deposit £5 5s. Tenders by October 2.

Blackburn, Lancs.—Cleaver Street sewer diversion for B.C., comprising approximately 120 lin. yd. of 60 in. diameter concrete pipe sewer, laid at depths of up to 21ft., along with a storm water overflow, and ancillary works. Applications to the Borough Engineer, Town Hall, Blackburn, by Sept. 4.

***Bournemouth, Hants.**—Kinson sewage disposal works, contract 6, for B.C. Deposit £1 1s. Tenders by Oct. 6.

Brixham, Devon.—Higher Brixham sewerage for U.D.C., including the laying of about 235 yd. of 18 in. diameter, 209 yd. of 15 in. diameter, and 357 yd. of 12 in. diameter concrete sewers, together with the construction of manholes and storm overflow chamber. Application, in writing, to John H. Haiste and Partners, consulting engineers, 8-10 Southgate Street, Gloucester. Deposit £3 3s. (cheque payable to U.D.C.). Plans also seen by appointment at the Town Hall, Brixham. Tenders by Sept. 26.

***Calne and Chippenham, Wilts.**—Laying sewers at Derry Hill for R.D.C. Deposit £2 2s. Tenders by Oct. 7.

***Chislehurst, Sussex.**—Main drainage of Plumpton—stage II, for R.D.C. Deposit £3 3s. Tenders by October 2.

***Chelmsford, Essex.**—Runwell surface water drainage, No. 1, for R.D.C. Deposit £3 3s. Tenders by Oct. 6.

***Coulson and Purley, Surrey.**—Construction of soil sewer, Old Lodge Lane, Kenley, for U.D.C. Deposit £3 3s. Tenders by Sept. 18.

***Derby.**—Sewage disposal works, contract 11, for B.C. Deposit £10 10s. Tenders by Oct. 2.

Flaxton, Yorks.—Construction of sewage disposal works extensions at Stockton-on-Forest for R.D.C. The work comprises hopper bottom settling tank and humus tanks, two 65ft. diameter filters, all in reinforced concrete, sludge beds and pumping station, with ancillary works. Documents from the offices of Fairbank and Son, consulting engineers, 29 St. Mary's, Bootham, York. Deposit £3 3s. (cheque payable to R.D.C.). Tenders by Sept. 30.

Flint.—Proposed sewerage scheme, Bryn-y-Garreg, Flint Mountain, for B.C., including the laying of approximately 500 yd. of 6 in. stoneware and 100 yd. approximately spun iron pipe in fields and highway together with the construction of a small brick septic tank treatment plant filter, with revolving sprinkler, and humus tank. Documents from the Borough Engineer and Surveyor, Municipal Offices, Earl Street, Flint. Deposit £2 2s. Tenders by September 25.

Harrogate, Yorks.—Harlow Hill drainage scheme for B.C., comprising construction of a reinforced concrete pumping station, 6 in. diameter spun-iron rising main and the laying of 9 in. diameter s.g.w. pipes. Documents from the office of the Borough Engineer, Municipal Offices, Harrogate. Tenders by Sept. 6.

Hastings, Sussex.—Laying of approximately 300 lin. yd. of 60 in. extra strength concrete pipe culvert at Pebsham Tip, and incidental drainage works for B.C., consisting of the construction of manholes, forebay and tail-bay. The pipes are to be supplied by the Corporation, delivered to site. Documents from the offices of the Borough Surveyor, 37 Wellington Square, Hastings. Deposit £2 2s. Tenders by Sept. 18.

Hemsworth, Yorks.—Conversion of 16 earth closets to water closets at College Terrace, Ackworth, near Pontefract, for R.D.C. Documents from Surveyor, Brierley Hall, Brierley, near Barnsley. Deposit £2 2s. Tenders by Sept. 18.

Isle of Man.—Construction and laying of a drainage scheme at Dalby in the Parish of Patrick, for Local Government Board. Documents from the Architect and Planning Officer, Murray House Douglas. Deposit £2 2s. payable to the Government Treasurer. Tenders by September 21.

Hornchurch, Essex.—Relief surface water sewer at Sycamore Avenue, Upminster, for U.D.C., comprising the construction of approximately 130 lin. yd. of 21 in. diameter

and 170 lin. yd. of 15in. diameter concrete pipe sewer, and approximately 32 lin. yd. of 12in. diameter s.g.w. pipe sewer, with three 48in. diameter precast concrete manholes, two manholes in brickwork, and ancillary works. Documents from the Engineer and Surveyor, Council Offices, Billet Lane, Hornchurch. Deposit £2 2s. Tenders by Sept. 11.

***Irlam, Lancs.**—Surface water sewer, Roscoe Road, for U.D.C. Deposit £2 2s. Tenders by Sept. 27.

Llandeilo, Carm.—Construction of Llan-gadog sewerage and sewage disposal scheme for R.D.C. The works consist of approximately 60yd. of 15in., 650yd. of 12in., 450yd. of 9in., and 3,826yd. of 6in. diameter sewers, two pumping stations and manholes, together with appurtenant works. Documents from Norman E. Evans, engineer and surveyor, Council Offices, Crescent Road, Llandeilo. Deposit £2 2s. Tenders by Oct. 12.

Maldon, Essex.—Parish of Purleigh, sewer extension, for R.D.C. including the construction of 940 yd. of 6in. diameter asbestos-cement pipe sewer, together with 13 manholes and ancillary work. Documents from the Engineer and Surveyor, Council Offices, Wantz Road, Maldon. Deposit £2. Tenders by Sept. 18.

***Manchester.**—Culverting of stream, etc., at Manchester Airport, for City Council. Tenders by Sept. 11.

Newcastle-under-Lyme, Staffs.—Relief culvert, London Road, Chesterton, for B.C., including provision and construction of 135 lin. yd. of 54in. diameter and 40 lin. yd. of 42in. diameter concrete culvert, together with 72 lin. yd. of 18in. diameter concrete pipes, 130 lin. yd. of 6in. and 9in. glazed stone-ware pipes, nine manholes and ancillary works. Documents from the Borough Engineer and Surveyor's Department, Lancaster Building, High Street, Newcastle-under-Lyme, Staffs. Tenders by Sept. 12.

***Newport, Mon.**—Reconstruction of Pont-faen Arch for the Usk River Board. Deposit £1. Tenders by Sept. 14.

Poole, Dorset.—Construction of 1,090yd. of 9in. spun-iron sewer in Banks Road, Sandbanks, for B.C. Documents from the Borough Engineer, Municipal Buildings, Poole. Deposit £2 2s. Tenders by September 19.

Rotherham, Yorks.—Aldwarke sewage works, reconstruction contract 9, for B.C., including the construction of four storm water tanks, a detritor and grit elevator in reinforced concrete, together with new concrete roads and other ancillary works. Documents from E. J. Manson, borough engineer, Municipal Offices, Howard Street Rotherham. Deposit £5 5s. Tenders by Sept. 18.

***Stoke-on-Trent, Staffs.**—Reconstruction of Longton Brookcourse, for City Council Deposit £3. Tenders by September 13.

***Torquay, Devon.**—Main drainage works (contracts A and B) for B.C. Deposit £5 5s. Tenders by Oct. 2.

Wigan, Lancs.—Parbold and District sewerage scheme (contract 3) for R.D.C., including: (a) Approximately eight miles of sewers of varying diameter between 6in. and 18in., together with manholes and appurtenant works; (b) two small pumping stations and pumping mains; (c) house drains and inspection chambers. Documents from the offices of Charles J. Lomax and Son, engineers, 68 Barton Arcade, Deansgate, Manchester, 3. Deposit £5 5s., cheques payable to R.D.C. Tenders by Oct. 2.

***Willenhall, Staffs.**—Surface water sewers at Longacres Industrial estate, for U.D.C. Tenders by September 18.

Willersden, Middx.—Cleaning and removal of obstructing materials from certain sewers for B.C. comprising work in circular and egg-shaped sewers of varying sizes. Written applications to the Borough Engineer and Surveyor, Town Hall, Dyne Road, N.W.6. Deposit £2 2s. Tenders by Sept. 7.

Worthing, Sussex.—Tarring road sewer for B.C., including reconstruction of approximately 1,200 lin. yd. of existing foul sewer between Eton Road and Teville Place. The work includes for excavation in trench 9ft. to 12ft. deep, breaking-out existing pipes and re-laying in 18in., 21in. and 24in. diameter concrete tubes, precast concrete manholes, connections, and ancillary works. Document from the Borough Engineer and Surveyor, Town Hall, Worthing. Deposit £2 2s. Tenders by Sept. 11.

STREET LIGHTING

Angus.—Letham special lighting district: Renewal of 29 lighting brackets and lanterns and minor repairs to a further 36 existing lights for C.C. Documents from the office of the County Engineer, County Buildings, Forfar. Tenders by Sept. 13.

Antrim.—Supply and erection of fluorescent lamps at Randalstown and Doagh for R.D.C. Documents from the Clerk's Office, The

Steeple, Antrim. Deposit £3 3s. Tenders by Sept. 8.

***Belper, Derbys.**—Extension of group A sodium lighting, trunk road A.6, Derby road, Milford, for U.D.C. Tenders by Sept. 23.

***Chislehurst and Sidcup, Kent.**—Street lighting trunk road A.20 for U.D.C. Applications by Sept. 9.

Doncaster, Yorks.—Trunk road lighting installation, route A.614 (Thorne Road), Austerfield, for R.D.C., including supply and installation of a total of 64 street lighting units. Each lighting unit will consist of a totally enclosed lantern equipped with a 140-watt sodium lamp, mounted on a 25ft. steel column, together with all necessary auxiliary equipment. Documents from the Surveyor, Council Offices, Nether Hall, Doncaster. Tenders by September 22.

East Ham, Essex.—Following for B.C.: (1) The supply and erection of concrete lighting columns; (2) the delivery and erection of street lighting equipment. The scheme provides for the supply and erection of 107 15ft. reinforced concrete columns, with an alternative scheme for 70 25ft. and 37 15ft. reinforced concrete columns, together with lanterns, lamps and ancillary gear. Documents from the Borough Engineer, Town Hall, East Ham., E.6. Deposit £2 2s. Tenders by Sept. 12.

***Esher, Surrey.**—Installation of street lighting, contract 325, for U.D.C. Deposit £1 1s. Tenders by September 25.

***Malvern, Worcs.**—Group B street lighting—phase III, for U.D.C. Deposit £2 2s. Tenders by September 15.

Musselburgh, Midlothian.—Supply and erection of 13 concrete columns (15ft. high) and 15 concrete columns (25ft. high) and for the installation of mercury discharge and sodium lamps in Eskside East and Pinkie Road for B.C. Documents from the Borough Surveyor, Municipal Offices, Musselburgh. Tenders by Sept. 19.

***Northwich, Ches.**—Trunk road lighting at Cuddington for R.D.C. Deposit £2 2s. Tenders by Oct. 12.

Peterborough.—Removal of existing and the supply and erection of approximately 600 new, mercury and sodium units on steel and concrete columns for City Council. Documents from City Engineer, Town Hall, Peterborough. Deposit £2. Tenders by Sept. 19.

Ripon, Yorks.—Supply and erection or for the supply only of 24 class A fluorescent wall-mounted and steel column-mounted lighting units, and 100 class B concrete column units for City Council. Documents from the City Engineer, Low Saint Agnesgate, Ripon, Yorks. Deposit £2 2s. Tenders by Sept. 11.

Sleaford, Lincs.—Supply and erection of seventeen class A lighting standards and ancillary equipment, for U.D.C. Documents from the Surveyor, Westgate House, 25 Westgate, Sleaford. Deposit £2 2s. Tenders by September 18.

Whitefield, Lancs.—Street lighting—Dales Lane A.667, for U.D.C., including supply and erection of 17 group A concrete lighting columns together with sodium discharge lamps, lanterns, all ancillary equipment and the dismantling of existing columns and equipment. Documents from the Surveyor, Town Hall, Whitefield. Tenders by September 11.

Worksop, Notts.—Provision of nine fluorescent lighting units, eight socket outlets and necessary wiring in a building at Carlton Road Tip, for B.C. Tenders may quote for: (a) The supply only of lanterns, tubes and auxiliary gear; (b) the wiring and fixing of lanterns, etc.; (c) the whole of the work. Documents from the Borough Engineer, Park House, Worksop. Tenders by Sept. 11.

INTERNATIONAL CONTRACTS

Ghana.—Tenders are invited by the Crown Agents for Overseas Governments and Administrations, acting for and on behalf of the Ghana Supply, Commission, for the supply to the Government of Ghana of equipment, buildings, and services for a complete new national television project. Tenderers must tender in respect of all parts of the project, which are summarised as follows: (a) Provision of a television studio building complete with equipment; (b) provision of three television transmitter buildings complete with all equipment; (c) provision of buildings and all equipment for the microwave programme links; (d) provision of two-way v.h.f. inter-communication links between Accra and the transmitters; (e) provision of complete main and automatic stand-by diesel power plant at the sites; (f) to maintain the buildings and the equipment, and instruct local staff, for a period of one year. Tender documents will be obtainable shortly from the Crown Agents, 4 Millbank, London, S.W.1, on pay-

ment of £50, which will not be returnable. For this sum four sets of documents will be provided, of which three must be completed and returned. Applicants for tender documents should quote reference EE2 Ghana 9515. Tenderers will be allowed two months in which to tender, the period to commence from the date on which the documents become available for issue.

Nairobi, Kenya.—Supply and delivery to Nairobi of two autographic water level recorders Anio/7, contract 1, for City Council. Documents from Howard Humphries and Son, consulting engineers, at their offices in Sadler House, Sadler Street, P.O. Box 30156, Nairobi, Kenya, or 34 Kings Road, Reading, Berks. Deposit £10 (cheque). Tenders by Sept. 15.

Nigeria.—Kaduna B power station, contract 1033/160: Supply and erection of two 3-MW diesel-alternators, heavy fuel treatment plant and other ancillary equipment, including the engine-room crane at Kaduna power station for the Electricity Corporation of Nigeria. A fuller description of the extent of the contract may be obtained from Preece, Cardew and Rider, consulting engineers, 12 Queen Anne's Gate, London, S.W.1, free of charge. Tenderers must be complete and cover the whole of the contract plant. Documents from Preece, Cardew and Rider, by cheque of £15 drawn in favour of the Consultants. This payment will not be refunded. The closing date for submission of tenders is Oct. 9. Tenders for switchgear, transformers, lighting and cables for the station will be invited at a later date. Persons interested in these should not now apply, but await further advertisement.

***New South Wales, Australia.**—Construction of bridge over the George's River, for department of Main Roads. Tenders by February 1.

Victoria, Australia.—Hazelwood Power Station (stage 2) for State Electricity Commission, including the design, manufacture, supply, delivery, erection and maintenance of two 200-MW steam turbo-generators and associated plant, all in accordance with specification 61-62/3 and B.7 contract conditions. Documents from the Agent-General for Victoria, Victoria House, Melbourne Place, The Strand, London, W.C.2, and also from the Purchasing Branch of the Commission, 22 William Street, Melbourne, Victoria, Australia. Tenders by Nov. 20.

AWARDS

BUILDING AND DECORATING (See also Housing Schemes)

Ashton-under-Lyne, Lancs.—Erection of garages on land near Oxford Street Playing Fields for B.C.—Direct Labour (recommended, subject to Ministry approval). Estimated cost £3,726.

Barrow-in-Furness, Lancs.—Following for B.C.: Remodelling of Abbotmead County Junior School—Direct Labour, £27,605 (recommended, subject to Ministry approval).

Erection of two shops with flats over at Tummerhill housing estate extension—Direct Labour, £13,257 (recommended).

Barrow-in-Furness, Lancs.—Extension of St. Columba's R.C. Primary School for the Governors of Roman Catholic Schools—W. Hull and Son, Ltd., Rawlinson Street, Barrow-in-Furness, £17,440.

Belfast.—Following at Annadale Grammar School Annadale Embankment, for City Council: (1) Erection and completion of a caretaker's house and store; (2) the erection and completion of a block of three laboratories and a cloakroom—(1) McCormick and Gillen, 1 Wynchurch Walk, Belfast; (2) Samuel Ross, Church Road, Newtownabbey.

Birmingham.—Conversion of Adelphi Ballroom for John Gordon. J. F. Phillips and Associates, 36 New Street, West Bromwich—J. A. Watkins, 58 Hill Top, West Bromwich, estimated cost £17,000. Work about to commence.

Birmingham.—Erection of a 13-storey block of shops and offices, to be known as Auchinleck House, Five Ways Centre, Edgbaston, for Murrayfield Real Estate Co., Ltd. J. Seymour Harris and Partners, architects and surveyors, 3-4 Greenfield Crescent, Five Ways—Tersons, Ltd., 4 Dollis Park, London, N.3, estimated cost £1,145,559. Work just commenced.

Blaby, Leics.—Erection of public conveniences at: (a) Forest Road, Narborough; (b) off Leicester Road, Sharnford; (c) Cambridge Road, Whetstone, for R.D.C. F. W. James, architect—(b) P. Chapman, Orchard End, Sharnford, Hinckley, £2,108; (c and a) Walter Potter and Sons, Ltd., Grasmere Street, Leicester, £2,305 and £2,287, respectively.

Bristol.—Erection of a store at Penn Street, Broadmead, for Littlewoods, Ltd., Liverpool—Griggs and Son, Ltd., Duckmoor Road, Bristol, 3. Site clearance work just commenced.

Cardiff.—Provision of Portland stonework for west wing extension to the National Museum of Wales at Cathays Park—Stone Firms, Ltd., Bath. T. Alwyn Lloyd and Gordon, architects, 6 Cathedral Road, Cardiff; L. C. Patterson, W. T. Seaton and Co., quantity surveyors, and M. McCann and Partners, heating and electrical consultants, both of 11 Cathedral Road, Cardiff. Tenders for the main building works expected to be received by April, 1962. Total estimated cost £375,000.

Corby, Northants.—Erection of St. Brendan's R.C. Infants' School at North Lawns estate, Gitch, Saunders and Surridge, architects, High Street, Kettering—A. Talby and Son, Ltd., 29 Station Road, Desborough. Estimated cost £50,000.

Croydon, Surrey.—Supply and fixing Weatherall Nuraphalte roofing at the Depot, Euston Road, for the South Eastern Electricity Board—Weatherall Roofing Co., Ltd., Gravesend, Kent, £6,095 (main contractors are Robert Hart and Sons, Ltd., 121 Victoria Street, London, S.W.1.).

Doncaster, Yorks.—Erection of a 24-lane bowling alley, 30 offices and 20 shops at East Laith Gate for Industrial and Investment Services, Ltd., London—C. J. Patching, Ltd., Britannic Chambers, Hallgate, Doncaster, £100,000. Work commencing Sept. 20.

Alterations and extensions to stores depot and erection of lock-up garages, Sunnyside, Edenthorpe (contract 382) for R.D.C. J. A. Williams, surveyor—R. Dunkerley and Sons, Ltd., 9 Highfield Road, Doncaster, £29,501.

Dudley, Worcs.—Following for B.C.: Roofing of the hall and replacement of terra cotta facings at Dudley Grammar School—S. Jackson and Co., Ltd., New Mills Works, Walsall, £578, and Mark Round and Sons, Ltd., New Street, Dudley, £687, respectively.

Temporary shops at King Street: Site works—Thomas Payne and Sons, Ltd., Churchfield Street, Dudley, £1,222; provision and erection—L. and J. D. Bucher, Ltd., Woden Road, Wolverhampton, £1,494; installation of electric lighting and power—Harris's Electrical Services (Tipton), Ltd., Mornington House, 166 Dudley Port, Tipton, £119 (recommended).

Supply, erection and completion of the structural steelwork for the first stage of erection of shops at Castle Street and Fisher Street, in the Hall Street redevelopment scheme—Broadwell Buildings, Ltd., Dudley Road, East Tividale, Tipton, Staffs., £11,757; completion of the re-roofing of the Education Offices—S. Jackson and Co., Ltd., £860 (recommended).

Repair of the pebble-dashed exterior of the houses at Wren's Nest estate—C. N. Randle, Ivanhoe Street, Dudley (recommended).

Durham.—Structural steelwork for the proposed Wingate Modern School for the C.C.—J. Dawson Fawcett (Darlington), Ltd., Darlington, £5,640.

Eire.—Construction of T.V. transmitter stations on the summits of Mount Leinster (Co. Waterford), Mullaghanish (Co. Cork), Maghera (Co. Clare), and Truskmore (Co. Sligo), for Radio Eireann, G.P.O., O'Connell Street, Dublin—J. and G. Murphy, Cork (Mullaghanish and Truskmore), and A. J. Jennings, Glenageary, Dublin (Mount Leinster and Maghera). Work to start immediately.

Farnworth, Lancs.—External painting of the central library for B.C.—George Wilson, 49 Rawson Street, Farnworth.

Gateshead, Dur.—Factory additions, Team Valley trading estate for Kavli, Ltd. J. Walton Taylor and Son, architects, St. James Buildings, Gallowgate, Newcastle upon Tyne—John Jackson and Sons, Corporation Street, Newcastle upon Tyne. Work commenced.

Erection of offices, caretaker's flat and warehouse at Earlsway, Team Valley trading estate, for Walter Willson, Ltd. C. S. Errington, architect, 46 Grainger Street, Newcastle upon Tyne—Brims and Co., Ltd., Pandon Buildings, City Road, Newcastle upon Tyne.

Haydon Bridge, Northumb.—Conversion of premises into workmen's club, J. M. Angus, architect, 3 Gallowgate, Newcastle upon Tyne—Victor Dillon, Sunnyside, Whickham, Co. Durham.

Heckmondwike, Yorks.—Erection of an omnibus garage and offices at Swallow Street for the Potteries Motor Traction Co., Ltd.—George Horstall and Son, Ltd., Valley Road, Liversedge, Heckmondwike. Plans by the company's staff architect, William E. Gott, and quantities by J. S. Hammond, Cheapside, Hanley, Stoke-on-Trent.

Hereford.—Erection of Roman Catholic primary school at Belmont Road for the Archdiocese of Cardiff—Selleck Nicholls and Co., Ltd., Hill House, East Hill, St. Austell, Corn., estimated cost £54,000. F. R. Bates, Son and Price, architects, 70 High Street, Newport, Mon.; Davis Belfield and Everest, quantity surveyors, 9 Ashley Place, London, S.W.1.; and M. McCann, heating and electrical consultant, 11 Cathedral Road, Cardiff. Work commencing mid-Sept.

Hereford.—Extensions to existing premises at Holmer Road for Denco Engineering Services, Ltd., comprising new production and storage bays. R. J. A. Wilson and McMillan, architects, 4a St. Peter's Street—Wilson Lovatt and Sons, Ltd., Clarence Street, Wolverhampton, estimated cost £60,000. Work just commenced.

Higham Ferrers, Northants.—Erection of 20 garages for B.C.—J. A. Bishop, Grafton Road, Rushden, £2,513.

Huddersfield, Yorks.—Extension to the parish hall at Lepton for The Parochial Church Council—Benjamin Beever's, Sons, Ltd., Ingbirchworth, Penistone, Yorks., £8,000. Work commenced.

Huntingdonshire.—Adaptations and extensions at Shortlands for C.C.—Burling and Sutton, Ltd., Eaton Ford, St. Neots, £7,032.

Isle of Ely.—Erection of the second instalment of Witchford Secondary School for E.C.—S. S. Ambrose and Son, Ely (recommended).

Kettering, Northants.—Erection of a supermarket and shops on site of Fleur De Lys public house at Newland Street for London and Provincial Shop Properties, Ltd. H. Owen Luder, architect, 79 Regency Street, London, S.W.1.—William Moss and Sons, Ltd., Queen's Road, Loughborough, estimated cost £25,000. Work commencing shortly.

Lanchester, Dur.—Proposed new social club. J. M. Angus, architect, 3 Gallowgate, Newcastle upon Tyne—Victor Dillon, Sunnyside, Whickham, Co. Durham.

Lindsey.—Erection of a training centre for mentally sub-normal children at Louth for Health Committee—H. Dorrington and Sons, Ltd., Spital Terrace, Gainsborough, £53,329.

Linwood, Renfrews.—Erection of a factory of 3,250,000 sq. ft. for Rootes Group, Ryton-on-Dunsmore, Coventry—Melville, Dundas and Whitson, Ltd., 21 Blythswood Square, Glasgow, C.2, £24m. Work is to start immediately, and is due to be completed by the end of next year.

Long Marston, War.—Supply and fixing of Weatherall Nuraphalte roofing to N.A.A.F.I. families shop (phase VII)—British Uralite, Ltd., Whitehall Place, Gravesend, Kent.

Lowestoft, Suffolk.—Extension of the ablutions block and conveniences at North Denes caravan site for B.C.—Direct Labour (recommended, subject to Ministry approval). Estimated cost £1,375.

Malvern, Worcs.—Extensions to board's workshop at Hall Green for Severn River Board—Thomas Broad, Ltd., Graham Road, Malvern, £2,536. Work commencing Sept.

Oswestry, Salop.—Redevelopment of Powis Hall as a general market for B.C.—D. J. Jones, Welshpool, £31,401.

Pershore, Worcs.—Improvements to 34 pre-war houses for R.D.C.—A. Pettifer (Pershore), Ltd., 19 High Street, Pershore, £18,962.

Peterborough.—Erection of a three-storey bedroom wing attached to the Bull Hotel for Paten and Co. (Peterborough), Ltd. Ruddle and Wilkinson, architects and surveyors, Long Causeway Chambers—Bettles Building Co., Ltd., Alma Road, Millfield, Peterborough. Estimated cost £40,000.

Ponteland, Northumb.—Erection of printing works for C. A. Macdonald, Ltd., Shields Road, Newcastle upon Tyne—Stephenson, Gillis and Partners, architects, Saville Chambers, North Street, Newcastle upon Tyne—Graham and Son, Forest Hall, Newcastle upon Tyne. Work about to start.

Rochdale, Lancs.—Extension of the bus depot in Mellor Street for B.C.—R. and T. Howarth, Ltd., Crossfield Works, Rochdale, £189,233.

St. Marylebone.—Erection of shops, showrooms, offices, hotel and basement car park on the site of the former Queen's Hall and St. George's Hall, Langham Place, W.1., for Laing Development Co., Ltd.—John Laing Construction, Ltd., London, N.W.7. Sir John Burnet, Tait, Wilson and Partners, architects, 10 Bedford Square, London, W.C.1.; Wake-man, Trower and Partners, quantity surveyors, 47 Bloomsbury Square, W.C.1. Estimated cost £1m.

Shrewsbury, Salop.—Demolition of market hall and erection of temporary shops (stage I) of development of the general market for City and Town Buildings, Ltd.—G. Percy Trenham, Ltd., Stoke-on-Trent, estimated cost £15,000. David Du R. Aberdeen, architect, 19 Southampton Place, London,

W.C.1., in association with Lionel E. Gregory, Poole and Ove Arup and Partners, consulting engineers, 13 Fitzroy Street, London, W.1. Work commenced.

Skelmersdale, Lancs.—Erection of new vicarage at parish church for Parochial Church Council—William Anderson, Burscough, £7,006. Work hoped to commence at the end of September.

Southampton.—Ten and three-storey development (office and commercial units) at Brunswick Place for Rom Securities, Ltd. W. H. Saunders and Son, architects, 22 Brunswick Place—Carlton Contractors, Ltd., Carlton House, Ashley Road, Epsom, Surrey. Estimated cost £300,000.

Southgate, Middx.—Re-roofing with Nuraphalte at Walker Primary School for B.C.—Weatherall Roofing Co., Ltd., Gravesend, Kent, £2,411. Work about to commence.

Stammore, Middx.—Extensions to the Stanmore Synagogue for United Synagogue—A. Roberts and Co., Ltd., 79 Eccleston Square, London, W.1. £70,000. Theo. H. Birks, architect, 38 Portland Place, London, W.1.; E. Spriggs and Partners, quantity surveyors, 2 South Audley Street, London, W.1.; and C. J. Pell and Partners, consulting engineer, 4 Manchester Square, London, W.1. Work about to commence.

Sunderland, Dur.—Laying lino tiles, etc., at Clifton Villas hostel (first floor) for B.C.—Bitulac, Ltd., Collingwood Buildings, Newcastle, 1, £1,031 (recommended).

Sunderland, Dur.—Painting of following for B.C.: External at Thorney Close Junior and Infant School, and internal at Havelock K.D.R. School—W. Crozier and Co., 2 Winalot Avenue, Sunderland, £644 and £517, respectively; part internal at St. Joseph's R.C. Junior and Infant School, Bede Grammar Schools and Technical College, Priestman Block—Direct Labour, £1,245, £2,125 and £995, respectively (recommended).

Tadworth, Surrey.—Extension of the Church of the Good Shepherd for the Church Authorities—Norman and Burt, Ltd., 255 London Road, Burgess Hill, Sussex. Work has just commenced.

Tottenham, Middx.—Extensions to factory by the construction of a new heavy fabrication shop and dust research laboratory at Millmead Road for Keith Blackburn, Ltd.—Hale Construction Co., Ltd., Markfield Road, London, N.15, £45,000.

Tottenham, Middx.—Construction of Nuraphalte roofing to the meal kitchen at Devonshire Hill School for B.C.—Weatherall Roofing Co., Ltd., Gravesend, Kent.

Uxbridge, Middx.—Improvements to B and C blocks at St. John's Hospital for the North West Metropolitan Regional Hospital Board—W. S. Try, Ltd., High Street, Cowley, £9,118.

Wallasey, Ches.—Erection of a two-storey brick and reconstruction stone sports pavilion at Lingham Park, Moreton, for B.C.—W. P. Clayton, borough architect—T. W. Glover and Son, Ltd., 2 Croxeth Avenue, Wallasey.

Walsingham, Norfolk.—Erection of 10 pre-fabricated garages, and the laying of concrete access road apron and base at Jubilee Avenue, Fakenham, for R.D.C. E. W. Collison, housing officer—Fisher and Sons (Fakenham), Ltd., Dereham Road, Hempton, Fakenham, £1,450.

Walthamstow, Essex.—Erection of shops, offices and maisonnettes, comprising the Hoe Street redevelopment scheme (stage III) for B.C.—Robert Hart and Sons, Ltd., 121 Victoria Street, London, S.W.1. £190,281 (recommended, subject to Ministry approval).

Wanstead and Woodford, Essex.—Twenty-one flats and two garages at 7-17 Victoria Road and the conversion of 31 Cleveland Road into six bed-sittingroom flats, for B.C.—J. and J. Dean (Contracts), Ltd., Ruckholt Works, Ruckholt Close, London, E.10. £34,238, and A. T. Price and Son, Ltd., 1 Horace Road, Barking, Ilford, £2,620, respectively (recommended, subject to Ministry approval).

Watford, Herts.—Two-storey extension to main factory building at Lower High Street for Ever Ready Co. (Great Britain), Ltd.—R. F. Peachey and Sons, Ltd., Hornfield Church Lane, London, N.17. Work commenced.

Welwyn Garden City, Herts.—Painting of 91 columns for U.D.C.—Abacus Municipal, Ltd., Sutton-in-Ashfield, Notts.

Wisbech, I. of E.—Extension to the Church of Our Lady and St. Charles—E. S. Tinkler, Ltd., 154 Norwood Road, March.

Interior redecoration of part of the High School and renewal of assembly hall floor at St. Mary I.P. School for Co. E.C.—J. D. Tighe and Co., Huntingdon, £1,489, and W. and W. G. West, Wisbech, £660, respectively.

Wolverhampton, Staffs.—Demolition of existing premises at Darlington Street and erection on the site of ground floor shops with offices above for the Norwich Union Insurance Societies. Ardin and Brookes and Partners, architects, 6 Cavendish Place, Cavendish Square, London, W.1—Wilson Lovatt and Sons, Ltd., Clarence Street, Wolverhampton, estimated cost £133,000. Work just commenced.

Workington, Cumb.—Erection of a motor-car showroom, Valeting Bay, and formation of vehicular access to Finkle Street for Myers and Bowman, Ltd. Graham, Roy and Nicholson, architects, 52 Main Street, Cockermouth—John Twinn, Ltd., Allerdale House, Brigham, estimated cost £17,000. Work commenced Aug. 28.

Workshop, Notts.—Erection of additional changing accommodation at swimming pool for B.C. O. Allsopp, borough engineer—W. Burton, High Road, Carlton-in-Lindrick, Workshop, £1,111.

CLOTHING AND TEXTILES

Lowestoft, Suffolk.—Supply of nine ½-length waterproof coats, 45 pairs of waterproof trousers and 45 sou'westers for refuse workers, etc., and 23 sets of waterproof long coats and sou'westers for coast protection workers for B.C.—S. R. Walsh, Ltd., £187 (recommended).

DEMOLITION

Biggleswade, Beds.—Demolition of Affinity Cottage, Village Road, Cockayne Hatley, for R.D.C.—W. Doherty, 32 Pipers Lane, Godmanchester, Hunts., £110 (accepted); M. F. Herbert, £125; Cousins (Contractors), £227; Winton Hayes, Ltd., £280.

Blaby, Leics.—Demolition and site clearance of: (a) 25 to 37 and 45 to 55 Chapel Street, Enderby; and (b) 69 to 85 Hinkley Road, Sapcote, for R.D.C.—Service Steeplejacks, 1 Duchess Street, Leicester, £108; and J. Leeson, 66 Blissett Road, Leicester, £99, respectively. Work commenced.

King's Lynn, Norfolk.—Demolition of houses in the Hillington Square area for B.C.—S. F. George, Radar View, Middleton, King's Lynn, £420.

Truro, Corn.—Demolition of 10 John Street, 6-11 George Street and 19 Castle Street, 1, 2, 3, 16, 17, 18 Little Union Street, and for clearing the sites for City Council. S. John O'Farrell, city engineer and surveyor—Richards and Rundle, Ltd., The Quarry Malpas Road, Truro, £405 (accepted); R. E. A. James, £410; W. H. Johns, £560; John H. Skewes and Co., £780.

ELECTRICAL

Belfast.—Following for City Council: (a) Complete electrical heating and lighting installations; and (b) complete plumbing installation in new laboratory block at Annadale Grammar School, Annadale Embankment, Belfast, 7. William J. Ogle, consulting engineer, 63 Main Street, Bangor—(a) W. F. Graham and Co., Ltd., 4 Linnhall Street West, Belfast, 2; (b) Lawthers, Ltd., 193 West Circular Road, Belfast.

North Walsham, Norfolk.—New electrical wiring and installations in the parish church for the Parochial Church Council—Eastern Electricity Board, £1,050.

Scarborough, Yorks.—Installation of an inter-communication call system between the warden's house and the old people's flats at Eastfield for B.C.—A. W. Sinclair and Sons, Ltd., 80 Commercial Street, Scarborough, £922 (recommended, subject to North Riding C.C. approval).

Stockport, Ches.—Electrical engineering services for Stockport College of Further Education, phase II, for B.C.—Piggott and Whitfield, Ltd., 9 Cooper Street, Stockport, £38,316.

Stoke-on-Trent, Staffs.—Revised electric lighting at the Public Abattoir, Hanley, for City Council—Barnett and Soans, Ltd., South Wolfe Street, Stoke-on-Trent, £2,980 (recommended).

FENCING

Blackburn, Lancs.—Supply and erection of fencing on boundaries of the Burnley Road improvement for B.C.—Darlington Fencing Co., Ltd., Balby, Doncaster.

Rayleigh, Essex.—Provision and erection of approximately 150 lin. yd. of 5ft. high galvanised chain link fencing on precast concrete posts, and approximately 120 lin. yd. of 10ft. high galvanised chain link fencing elevated 5ft. above ground level on mild steel angle posts at Rawreth Playing Field for U.D.C.—Boulton and Paul, Ltd., Riverside Works, Norwich, £455 (accepted); Mid-Essex Fencing Co., Ltd., £469; B.B. and C. Fencing, Ltd., £590; Supreme Fencing, Ltd., £614. Work commencing within one month.

GAS AND WATER SUPPLY

Blackpool, Lancs.—Supply of following for Fylde Water Board: Two trailer-mounted air-cooled diesel generator sets, approximately 1,500 r.p.m., 200/250kW., capable of running solo or in parallel—English Electric Co., Ltd., Rugby (for one generator only); precast prestressed concrete beams and columns and precast concrete beams for the roofing of Westby Reservoir—George Greenwood and Sons, Halifax.

Dungannon, Tyrone.—Laying of water mains for R.D.C.—Norwest Construction Co., Ltd., Baillysk, £31,839.

East Devon.—Construction of 500,000-gallon reinforced concrete reservoir and booster pump-house, with ancillary work, at Roundball Hill, Honiton, and of surge tank chamber and control house, with ancillary work, at Ottery St. Mary (contract W.14) for the East Devon Water Board. Rofe and Rafferty, consulting engineers, 9 Brewer's Green, Buckingham Gate, London, S.W.1—Exeter Asphalt and Tarpaving Co., Ltd., Exhibition Way, Pinhoe Trading Estate, Exeter. Work is expected to commence shortly.

Kerrier, Corn.—Stithians water scheme (distribution), second and third instalments for R.D.C. Herbert Lapworth and Partners, consulting engineers, 25 Victoria Street, Westminster, S.W.1—Gray, Conoley and Co., Ltd., Stephenson Street, London, E.16, £194,776. Work commencing Sept. 18.

Wymondham, Suffolk.—Extension of the water main to Silfield for U.D.C. W. Herbert Bateman and Partners, consulting engineers, Halifax House, Bank Plain, Norwich—A. J. Holloway, Ltd., Wymondham, £3,966 (accepted); A. R. Cleghorn, Ltd., £6,685; A. R. King, £5,528; R. and C. J. Whitehead, £4,267; W. A. G. Johnson, £4,049. Work commencing September.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Herne Bay, Kent.—East Cliff coast protection, comprising the construction of 2,600 lin. ft. of sea wall with decking and back wall, being mainly the encasement of existing works, together with 45 timber groynes and some cliff grading and drainage work for U.D.C. Lewis and Duvivier, consulting engineers, 14 Howick Place, London, S.W.1—J. W. Ellingham, Ltd., 4 Granada House, Gabriels Hill, Maidstone, £148,464 (recommended, subject to Ministry approval). Work is hoped to commence in Sept.

HEATING AND VENTILATING

Barrow-in-Furness, Lancs.—Installation of heating and hot water at Holker Secondary School for B.C.—Direct Labour.

Ilford, Essex.—Improvements to heating installation at the Mount and Uphall Schools, for B.C.—S. J. Frith and Son, Ltd., 7 Great Eastern Road, London, E.15, £19,493 (recommended, subject to Ministry approval).

Rochdale, Lancs.—Conversion of coke-fired boilers at Kirkholt Secondary School for B.C.—Consolidated Heating Co., Ltd., Columbia Mill, Bedford Street, Bolton, £2,088.

Sheffield.—Equipment of boilerhouse which will heat and provide hot water for the Hyde Park flats (stage two of the Park Hill scheme), comprising more than 1,300 dwellings, for City Council—G. M. Haden and Sons, Ltd., Manchester, £40,266.

Stockport, Ches.—Following for B.C.: Installation of heating in accommodation occupied by park department at Short Street Depot—Smethursts Heating and Ventilating Co., Ltd., 123a Gorton Road, Stockport, £658; provision of interconnecting mains for the heating system from Stockport College of Further Education to Greek Street High School—J. H. Hicks and Co., Ltd., Richard Street, Stockport, £1,576; mechanical engineering services at Stockport College of Further Education, phase II—Z. D. Berry and Sons, Ltd., 16 Regency Street, London, S.W., £39,712.

Wanstead and Woodford, Essex.—Installation of heating and hot water services in 14 three-storey houses at the Eastern Avenue housing site for B.C.—Matthew Hall and Co., Ltd., Matthew Hall House, Dorset Square, London, N.W.1, £8,348 (recommended).

HOUSING SCHEMES

Aberystwyth, Cards.—Fifty-two flats for B.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Abram, Lancs.—Thirty-two houses and six flats on The Bickershaw 12 housing site for U.D.C.—G. and J. Seddon, Ltd., Farncombe, £64,643.

Andover, Hants.—Forty-four houses at London Road housing site for B.C.—

W. Marshall (Andover), Ltd., Charlton Farm, Andover, £83,736.

Barnard Castle, Dur.—Four houses and four bungalows at Woodland for R.D.C.—R. L. Wade and Sons, 60 Front Street, St. Helens, Bishop Auckland.

Bridlington Yorks.—Two bungalows and ancillary works at Bampton for R.D.C.—Waud Bros., Allinson Lane, Flamborough, Bridlington, £2,660.

Brighton, Sussex.—Supply and fixing Weatherall Nuraphalte roofing to aged persons' flats at Coldean Lane, North Moulescombe, for B.C.—Weatherall Roofing Co., Ltd., Gravesend, Kent (main contractors are Carlton Contractors, Ltd., Epsom, Surrey).

Cannock, Staffs.—Twenty-four dwellings, three shops and 14 garages, Dogintree estate, Huntington, for R.D.C.—C. Hall (Heath Hayes), Ltd., 53 Chapel Street, Heath Hayes, Cannock, Staffs., £39,743.

Corby, Northants.—Twenty-five houses (for sale) near Hood Court, Lodge Park estate for U.D.C.—Selleck Nicholls and Co., Ltd., East Hill, St. Austell, Corn.

Cranbrook, Kent.—Forty-seven Homeville traditional houses and bungalows at Sissinghurst, Hawkhurst and Freight for R.D.C.—W. Ellis (Etchingham), Ltd., Etchingham, Sussex.

Dungannon, Tyrone.—One hundred and fifty-eight houses and 12 garages at Coalisland for R.D.C.—Mullan Bros., Garvagh, £237,748.

Easington, Dur.—Eight bungalows with roads and sewers at Thornley for R.D.C.—Direct Labour. Estimated cost £11,400.

Ebbw Vale, Mon.—Two hundred and fifty-four Homeville traditional houses, flats, bungalows and shops at Rassau, Beaufort, for U.D.C.—Wilson Lovatt and Sons, Ltd., Wolverhampton.

Frimley, Surrey.—One hundred and twenty-three dwellings comprising stages 1 and 2, and 115 dwellings, stage 3, for Lendore Properties (Malden), Ltd.—Baileys (Builders and Contractors), Ltd., Albert Works, 2a Albert Road, New Malden. Estimated cost of stage 1 and 2, £300,000.

Hereford.—Seventy-eight houses and 29 garages at Clehonger for R.D.C.—Luggvale Construction Co., Ltd., 13 St. Nicholas Street, Hereford, £153,850.

Hinckley, Leics.—Ten bungalows at Moat House site, Burbage, for U.D.C.—Roy Startin, Ltd., 134 Wood Street, Earl Shilton, Leics., £13,450 (recommended, subject to Ministry approval).

Lakes, Westmor.—Twelve flats, nine houses and four bungalows for U.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Leominster, Heres.—Twelve houses at Hawthorne Place site for B.C.—F. B. May, Headbrook, Kington, £20,633.

Lichfield, Staffs.—Following for City Council: Three blocks of eight-storey flats at Wheel Lane estate—Wates, Ltd., 1258 London Road, London, S.W.16, £225,024 (recommended, subject to Ministry approval).

Four blocks of eight-storey flats at Trent Vale estate—G. Wimpey and Co., Ltd., Hammersmith Grove, London, W.6 (recommended).

Lowestoft, Suffolk.—Seven-six dwellings at Guntton estate for B.C.—W. Ames, Ltd., 20 North River Road, Great Yarmouth, £162,201 (recommended, subject to Ministry approval).

Marple, Ches.—Two Homeville traditional houses at Cote Green Road, and 12 Homeville flats at Erncroft for the U.D.C.—Manor Park (Glossop) Builders, Ltd., Glossop.

Morpeth, Northumb.—Forty-eight houses for R.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

Newmarket, Suffolk.—Sixteen flats in Mill Lane, Exning, in two two-storey blocks of traditional construction for U.D.C. The work to be carried out includes the whole of the site preparations, pavings, drainage and services. P. D. Lees, architect—Law Bros., Ltd., Victoria Street, Littleport, Cambs., £23,197 (accepted); T. C. Stewart, Ltd., £23,878; W. Sindall, Ltd., £26,785. Work commencing Oct.

Oundle, Northants.—Twelve Homeville traditional bungalows at Inkerman Yard for U.D.C.—A. J. Potter and Sons, Ltd., Wellingborough.

Portsmouth.—Thirty flats in Northern Parade for Housing Committee—Howe and Bishop, Ltd., Clarendon Street, Portsmouth, £67,884.

Sheffield.—Two hundred and ninety-six flats in Newfield Green, last part of Gleadless Valley estate, for City Council—M. J. Gleeson (Contractors), Ltd., 798 Chesterfield Road, Sheffield, 8, £794,784.

Walthamstow, Essex.—Twenty-seven bungalows and 55 lock-up garages, etc., at the

rear of 8-62 Montalt Road, Woodford Green, for B.C.—Seivad, Ltd., 12 Southend Road, Woodford, £91,113 (recommended, subject to Ministry approval).

Wellingborough, Northants.—Conversion of Hattondale, The Promenade, into 14 old people's flats, warden's accommodation and a common room for U.D.C.—A. J. Potter and Sons, Ltd., High Street, Stanwick, Raunds, £15,250.

Yeovil, Som.—Nineteen flats for B.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

MATERIALS AND SUPPLIES

Accrington, Lancs.—Supply of 88 timber window frames for houses at Rothwell Avenue and Belfield Road for B.C.—R. P. Townley and Son, Ltd., 148 Burnley Road, Accrington, £1,022 (recommended).

MISCELLANEOUS

Hford, Essex.—Removal of trolleybus poles, stages 1 and 2, along trolleybus routes, for B.C.—Skittal, Crane and Plant Hire, Ltd., 68 Stratton Drive, Barking, £742, (recommended, subject to Ministry approval).

PLANT AND MECHANICAL TRANSPORT

Accrington, Lancs.—Supply of a cabinet dial fully automatic weighbridge at the refuse disposal works for B.C.—Berry and Warrington, Ltd., 37 Byrom Street, Liverpool, 3, £1,723 (recommended).

Bridgend, Glam.—Supply of the following for U.D.C.: (a) One Massey-Ferguson FE.35 semi-industrial diesel tractor fitted with dual brakes and mounted on 600 by 16 front and 10 by 28 Grassland rear tyres and complete with automatic trailer hitch; (b) one Horndraulic front loading shovel complete with 9 cu. ft. bucket and suitable for use with a Ferguson TEF.20 diesel tractor, to include fitting to the Council's existing tractor and putting into service—(a) Burgess Industrial Plant, Ltd., Wolverhampton Road, Stafford, and (b) Ken Morgan, Ltd., Wick Road, Llantwit Major, Glam.

March, I. of E.—Provision of a refuse collecting vehicle for U.D.C.—Ely Service Motor Co., Ltd., Lynn Road, Ely, £970.

Stoke-on-Trent, Staffs.—Supply of following for City Council: One Caterpillar D4 tractor—Bowmaker (Plant), Ltd., Cannock, £5,433, less £400 allowance for old bulldozer; Bedford 6-ton forward control chassis (for Fire Brigade)—North Stafford Motors (Tunstall), Ltd., Bedford Buildings, High

Street, Tunstall, Stoke-on-Trent, £860 net; power shovel—Bray Construction Equipment, Ltd., Hamilton Road, Sutton-in-Ashfield, Notts., £1,896; trailer transporter—J. Lewis (Machinery), Ltd., 89 Waterloo Road, Burslem, Stoke-on-Trent, £350; vibrating roller—Thomas Green and Sons, Ltd., North Street, Leeds, £370; workmen's cabin (mobile)—Cartruck, Ltd., Stockport, £247 (recommended).

PLAYING FIELDS, PARKS, ETC.

Middlesbrough, Yorks.—Development of playing fields at St. Michael's R.C. School for E.C.—En-Tout-Cas Co., Ltd. Leicester, £8,918.

RAILWAY ENGINEERING

British Railways.—Following contracts placed: Eastern Region:

Erection of an extension to the mess-room and staff accommodation and a medium voltage switch-room extension to the sub-station and compressor-house at Dinsdale rail welding depot near Darlington—L. C. Abdale (Building Contractors), Ltd., Darlington.

Waterproofing and drainage to the deck of bridge 24a on the Wrenthorpe to Adwalton Junction line near Dewsbury Central Station—James Hadfield and Son, Ltd., Sheffield, 4.

RIVER AND FLOOD PREVENTION WORKS

Arundel, Sussex.—Raising and strengthening of the River Arun right bank revetments for 630 lin. yd. downstream of Arundel Bridge, in the Arundel town front improvement scheme for the West Sussex River Board, comprising 183 lin. yd. of new steel sheet piled walling, raising of brick and concrete walls and three floodgates to slipways, as well as various works of pointing and making good existing walls—Mears Bros. (Contractors), Ltd., 6 Cumberland Place, Southampton (recommended). Estimated cost £20,000. Work expected to commence Oct.

ROADS, BRIDGES AND SITE WORKS

Abram, Lancs.—Road works on the Bickershaw 12 housing estate for U.D.C.—Allen Bros., Vigo Street, New Springs, Wigan, £2,450.

Bangor, Caerns.—Widening of Glanrafon and surfacing of Deanery Car Park for B.C.—R. J. Burr, Garth Yard, Beach Road, Bangor, £20,247 (subject to Ministry approval).

Bishop's Stortford, Herts.—Completion of roads and footpaths for new estate at Oaklands Park for Lawson and Co.—Farmiloe and McVe, Ltd., 10 High Street, Welwyn.

Bray, Wicklow, Eire.—Surface dressing of approximately 25,600 sq. yd. of roads for U.D.C.—Roadstone, Ltd., Dublin, 1s. 4d. per sq. yd.

Brighouse, Yorks.—Resurfacing by retread method of various roads within the borough, comprising a total area of approximately 8,000 sq. yd. for B.C. H. A. Sneezum, borough engineer—Bristowes Tarvia Contracting, Ltd., Dysart Road, Grantham, Lincs., £3,863. Work commencing September.

Castleford, Yorks.—Making-up of private streets in Briggs Avenue area and Westworth Avenue area (149-157, inclusive) for B.C. R. A. Easdale and Son, consulting engineers, County Chambers, Wesley Street, Castleford—John O'Dea, Ltd., 145 Otley Old Road, Lawnswood, Leeds, 16, £7,268.

Derbyshire.—Improvement at Woodthorpe Hall Farm, Mastin Moor-Bolsover Road, B.6149 for C.C.—Better Roads, Ltd., Alfreton, Derbys., £12,199.

Dudley, Worcs.—Resurfacing of footpaths in parks for B.C.—C. J. Pearce and Co., Ltd., Southall, Dawley, near Wellington, Salop, £1,177 (recommended).

Durham.—Replacing Baths Bridge for the City Council. L. G. Mouchel and Partners, consulting engineers, 24 Claremont Place, Newcastle upon Tyne—Purdie Lumsden and Co., Ltd., Oxford Street, Newcastle upon Tyne, £35,500. Work to commence next month.

East Riding.—Modernisation of a further length of the Liverpool-Leeds-Hull trunk road (A.63), between North Ferriby and Welton, for C.C.—W. J. N. Bryce, county surveyor—Martin Cowley, Ltd., The Limes, High Street, Clay Cross, Derbyshire, £156,947. Work commencing shortly.

Folkestone, Kent.—Supply and laying by mechanical spreader of approximately 500 tons of hot rolled asphalt surfacing and dense bitumen-macadam regulating course at The Central Station roundabout for B.C.—Chittenden and Simmonds, (Asphalt), Ltd., Ditton Place, Larkfield, Maidstone, £2,544. Work to commence end of September.

Hambledon, Surrey.—Site development works at The Glebe, Ewhurst, for R.D.C., comprising 3,600 super. yd. of concrete carriageway, some 1,600 lin. yd. of 6in.-12in. diameter sewers, with 39 manholes. E. T. Palmer, engineer—Sydney Green and Sons, Ltd., Highlands Farm, Henley-on-Thames, £17,136. Work has commenced.



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Heckmondwike, Yorks.—Making-up of top part of Berwick Avenue for U.D.C.—Ibmec, Ltd., 36 Sunbridge Road, Bradford, £2,500 (recommended).

Hitchin, Herts.—Construction of roads, sewers, footpaths and ancillary works for new estate at Upper Rosehill for Pearce and Barker, Ltd.—Farmiloe and McVie, Ltd., 10 High Street, Welwyn.

Huntingdonshire.—Reconstruction of a one-mile length of the Great North Road (A.1) to provide dual carriageways between the south side of Buckden Village and Buckden railway bridges (section 6A and 6B) for C.C. R. E. C. Dorking, county engineer and surveyor—A. Monk and Co., Ltd., Padgate, Warrington, £391,182.

Ilford, Essex.—Improvement of Billet Road for B.C.—W. and C. French, Ltd., 50 Epping New Road, Buckhurst Hill, £38,592 (recommended, subject to Ministry approval).

Ince-in-Makerfield, Lancs.—Construction of roads, sewers and water mains on the Industrious Bee housing site for U.D.C.—Allen Bros., Vigo Street, New Springs, Wigan.

Liverpool.—Site levelling and land drainage at Speke No. 2 factory for Standard-Triumph (Liverpool), Ltd. The work comprises over 560,000 cu. yd. of excavation and eight miles of field drains—Leyland Construction Co., Ltd., Leyland, Preston, £115,000.

Llanfyllin, Monts.—Works of repair and improvement to housing estate roads at Llanfyllin, Dolanog, Llangadfan and Meifod for R.D.C. L. O. Evans, surveyor—Buttington Road Rolling Co., Min-y-Nant, Trewern, Welshpool, £1,905. Work commencing October.

Lowestoft, Suffolk.—Making-up of Dell Road (part) for B.C.—Harpers Transport, Ltd., Oulton Broad, Lowestoft, £11,461 (recommended, subject to Ministry approval).

Mansfield Woodhouse, Notts.—Reconstruction and widening of Albert Street and that section of Park Hall Road from its junction with Albert Street to that with Middleton Road for U.D.C.—Herbert Ashley, Sheepbridge Lane, Mansfield, £13,050 (accepted); E. Reader and Sons, Ltd., £16,964.

Orrell, Lancs.—Flagging/re-flagging county and district roads for U.D.C., consisting of taking-up existing kerbs and flagged foot-

ways and re-laying new precast concrete kerbs and flags. The approximate quantities are 1,644 lin. yd. of kerb and 3,566 sq. yd. of flagging. J. A. Morris, engineer—R. and T. Bradley (Contractors), Ltd., Armoury Bank, Ashton-in-Makerfield, Lancs.

Rochdale, Lancs.—Construction of roads and sewers and site works at Breadmonds extension and surfacing at school yards with asphalt for B.C.—M. Dwyer, Ltd., Dulwich Street, Manchester, 4, £14,377. and Bituminous Surfacing (1953), Ltd., Lime Bank Street, Manchester, 12, £3,477, respectively.

St. Albans, Herts.—Reconstruction of Folly Lane (part), comprising approximately 2,300 sq. yd. of carriageway works (10in. lean-mix base and 4in. asphalt surfacing), together with ancillary works, for City Council—M. J. Clancy and Sons, Ltd., 715 Harrow Road, Wembley, Middx., £8,591.

St. Helens, Lancs.—Making-up of eight streets, or parts of streets, in the Hardshaw area for B.C.—R. and J. Bradley (Contractors), Ltd., Armoury Bank, Ashton-in-Makerfield.

Saffron Walden, Essex.—Construction of new cul-de-sac road and sewers, etc., at Blacklands Close, for B.C.—Direct Labour (recommended, subject to Ministry approval. Estimated cost £2,262.

Shorne, Kent.—Construction of drive in hard-core and binding gravel at Page Way, Pear Tree Lane, for G. E. Wallis and Sons, Ltd.—Hodsons, Ltd., 17 Wrotham Road, Gravesend.

Stockport, Ches.—Playground repairs at Vernon Park Primary School, Dial Stone Secondary School and Adswold Primary School for B.C.—Burke and Roberts, Ltd., Bank Street, Stockport. Estimated cost £1,200.

Stoke-on-Trent, Staffs.—Making-up of Longley Road (part), Longton and Tirley Street, Fenton, for City Council—F.H.M. Contractors, Ltd., off Brook Lane, Newcastle-under-Lyme, £1,435 and £1,084, respectively (recommended, subject to Ministry approval).

Sunderland, Dur.—Channel and carriageway works in Ridley Street for B.C.—Direct Labour, £764.

Wellingborough, Northants.—Kerb and footpath improvements at Hatton Park Road

and Debdale Road for U.D.C.—Roads Reconstruction (Contracting), Ltd., Frome, £2,002.

Westhoughton, Lancs.—Bolton Road, asphalt surfacing for U.D.C., including the supply and laying of approximately 5,700 super. yd. of hot rolled asphalt surfacing on Bolton Road (from junction with Park Road to Cow Lee Bridge). F. H. Walker, engineer and surveyor—The Trinidad Lake Asphalt Co. (N.W.), Ltd., India Buildings, Water Street, Liverpool, 2.

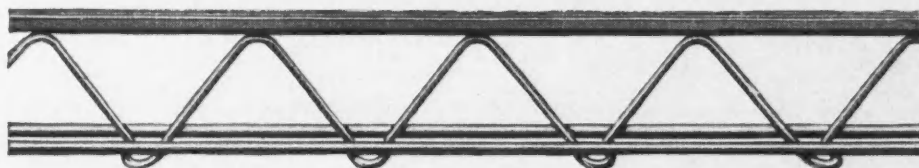
SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Blaby, Leics.—Construction of extensions to the Narborough and Cosby Sewage Disposal Works for R.D.C., comprising three 34ft. diameter circular tanks, two pumping stations, earth lagoons, sludge drains and pumping mains, and other ancillary works, and the laying of about 600 yd. of 12in. diameter sewer, together with manholes. Pick, Everard, Keay and Gimson, consulting engineers, 6 Millstone Lane, Leicester—Thomas Fletcher and Co., Ltd., Mansfield, £33,545.

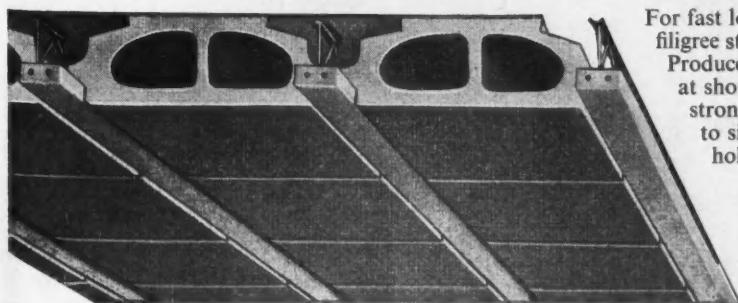
Castleford, Yorks.—Construction of the Whitwood surface water sewer, comprising approximately 1,262 lin. yd. 27in. to 12in. diameter specially strengthened concrete pipe sewers, together with manholes, outfall works, and other incidental works, for B.C.—T. Waddington and Son, Heath Concrete Works, Doncaster Road, Wakefield, £31,053.

Chancetonbury, Sussex.—Main drainage of Ashington and Washington (C21/7, contract 1) for R.D.C., comprising the construction of approximately 14,000 lin. yd. of 6in., 9in. and 12in. diameter sewers and rising mains, one sewage pumping station and a new sewage disposal works, the latter involving construction of sedimentation tanks, filter beds, humus tanks, sludge digestion tanks and drying beds, and other ancillary works. Howard Humphreys and Sons, consulting engineers, West Street, Epsom, Surrey—Tilbury Construction Co., Ltd., Twyford, Berks., £167,278 (accepted); Marples, Ridgway and Partners, £227,136; T.H. Contractors, Ltd., £206,480; Waring (Contractors), Ltd., £193,124; Hugh Brown (Engineers), Ltd., £190,114; Bridgwater

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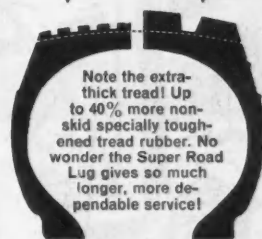
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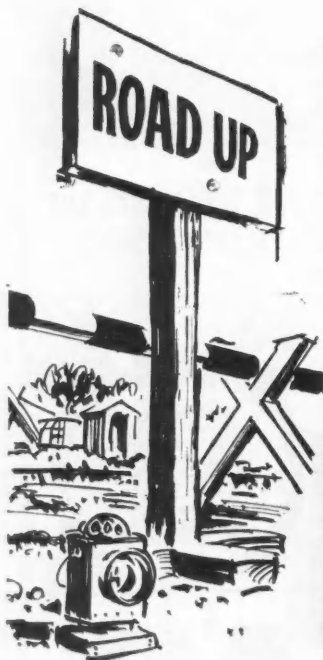
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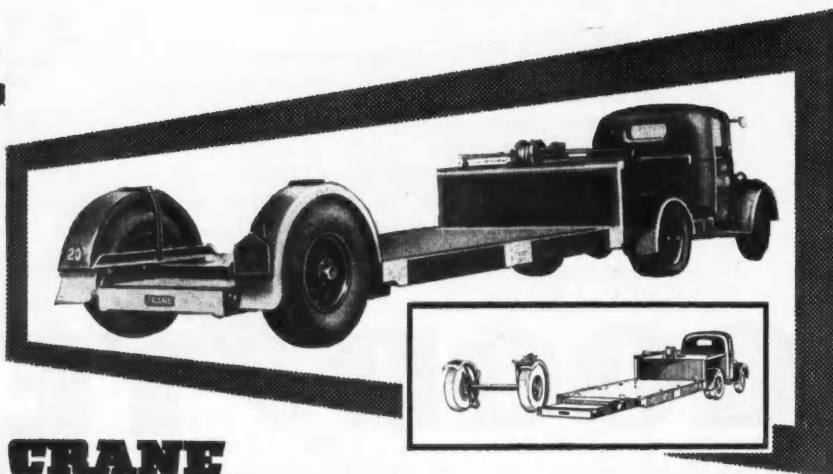
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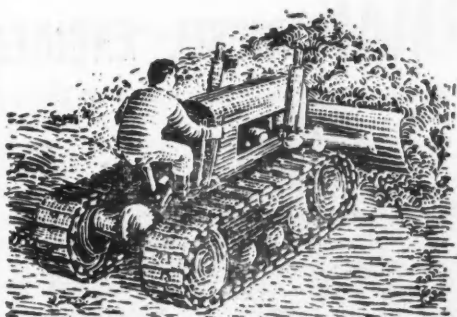


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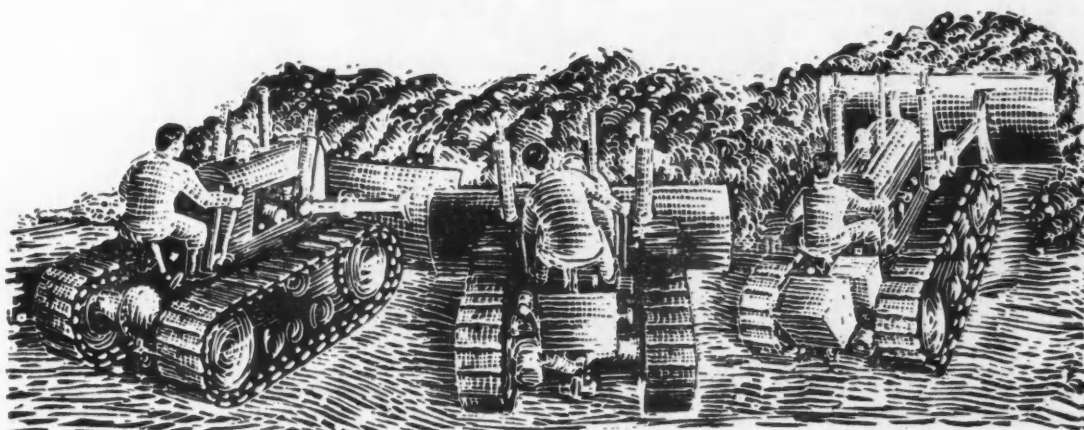


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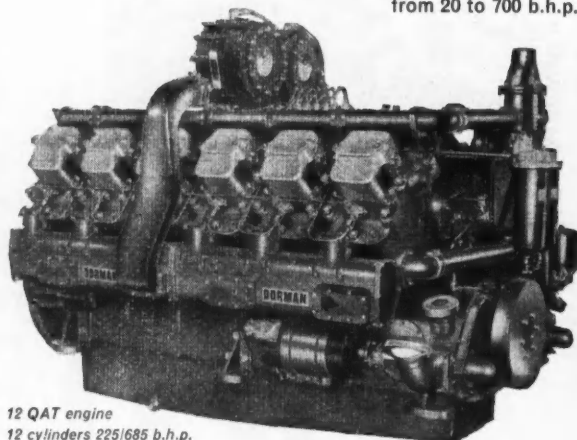
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2LB	125	130	2	23	37
3LB	125	130	3	36	62
4LB	125	130	4	49	83
4LBT	125	130	4	66	117
5LB	125	130	5	59	98
6LB	125	130	6	74	125
6LBT	125	130	6	100	165
8LB	125	130	8	100	165
6LC	127	149	6	91	145
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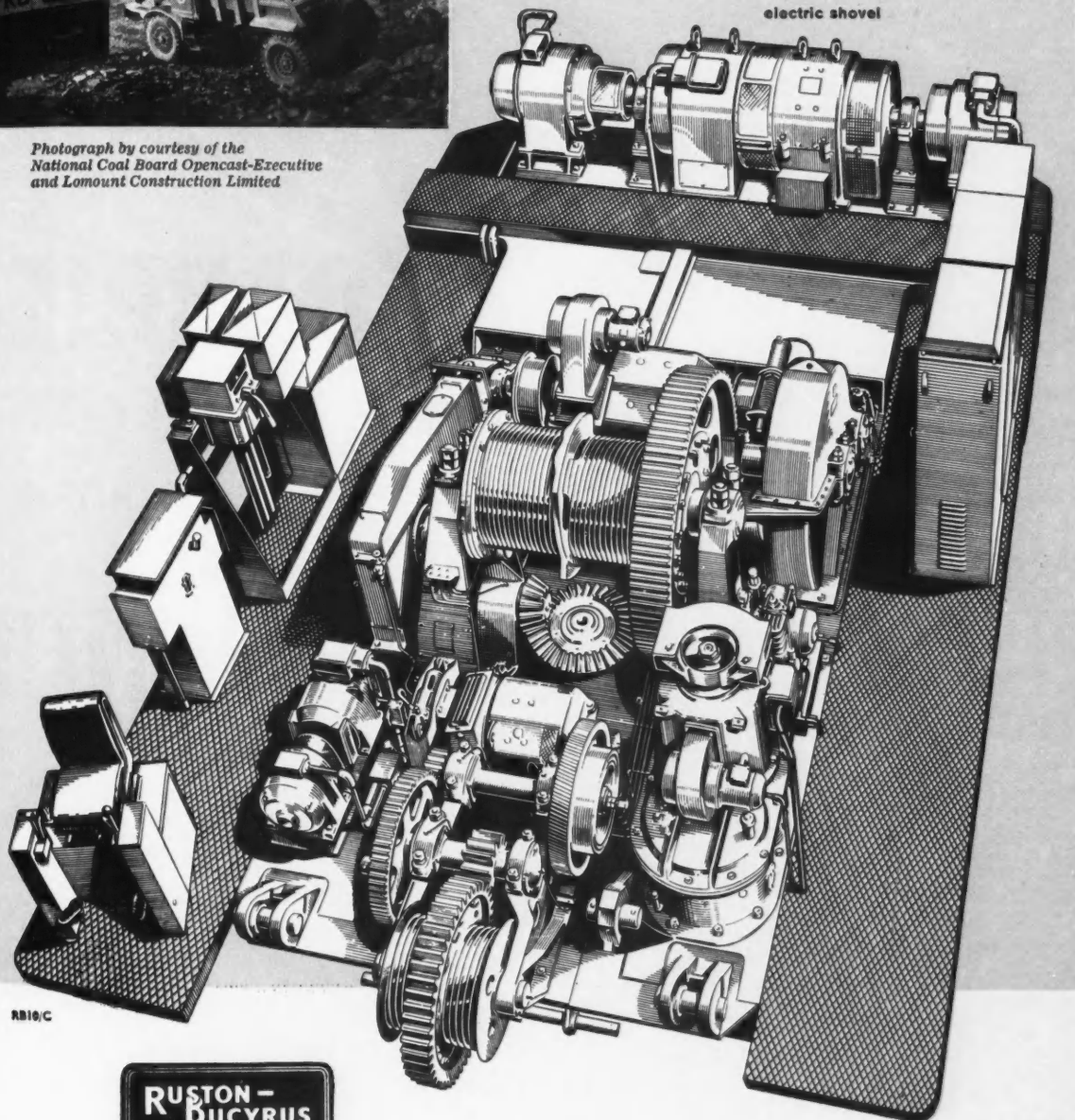
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*Photograph by courtesy of the
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**Main machinery
of 110-RB
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electric shovel**



RB10/C



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The INTERNATIONAL

15-K3 DROTT

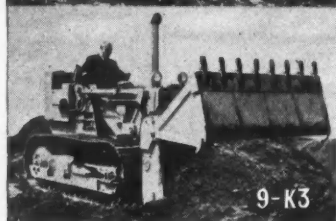
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B6-K3



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...*between* the smaller and largest crawler shovels available today—both in size and price. With its 2½ cu. yd. “four-in-one” equipment, 115 BHP 6-cylinder diesel engine, and fully reversible 6-speed transmission, the 15-K3 Drott represents exceptional value for money. High power-to-weight ratio provides forceful performance with excellent output and outstanding economy.

Offering unlimited advantages and scope, the range of International Drott crawler tractor shovels is proving itself continually on sites across the globe. Today the B-6K3 is the world's biggest selling tractor shovel, though in popularity its brothers follow close behind.

Amongst the many job proven features which set the Drott head and shoulders above its competitors are the following:-

- Shock swallowing ‘Hydro-Spring’ reducing impact forces on tractor and operator by 67%.
- Drott pry-out over skid-shoe action increases bucket breakout power by up to six times.
- Parallelogram type linkage keeps the bucket at a non-spill level throughout the ‘raise’ action. It also allows a maximum of forward vision as a result of its simplified design.

Included in a variety of job-matched equipments from skid-grapples to side-tips, the exclusive ‘4-in-1’ bucket stands out as the most important—and popular. Fitted with this bucket, the machine's versatility is limitless and at the touch of a lever the operator can change from loading to excavating, bulldozing, grading, stripping, spreading, compacting...

TABLE SHOWING COMPARATIVE
BUCKET CAPACITIES AND ENGINE H.P.

MODEL	B-6K3	B-8K3	9K3	15K3	B-20K3
BUCKET CAPACITY (cu. yds.)	1	1¼	1½	2¼	3
B.H.P. (at engine flywheel)	50	60	71	115	124



Every one backed by unrivalled service

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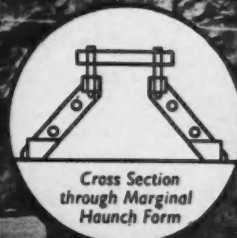
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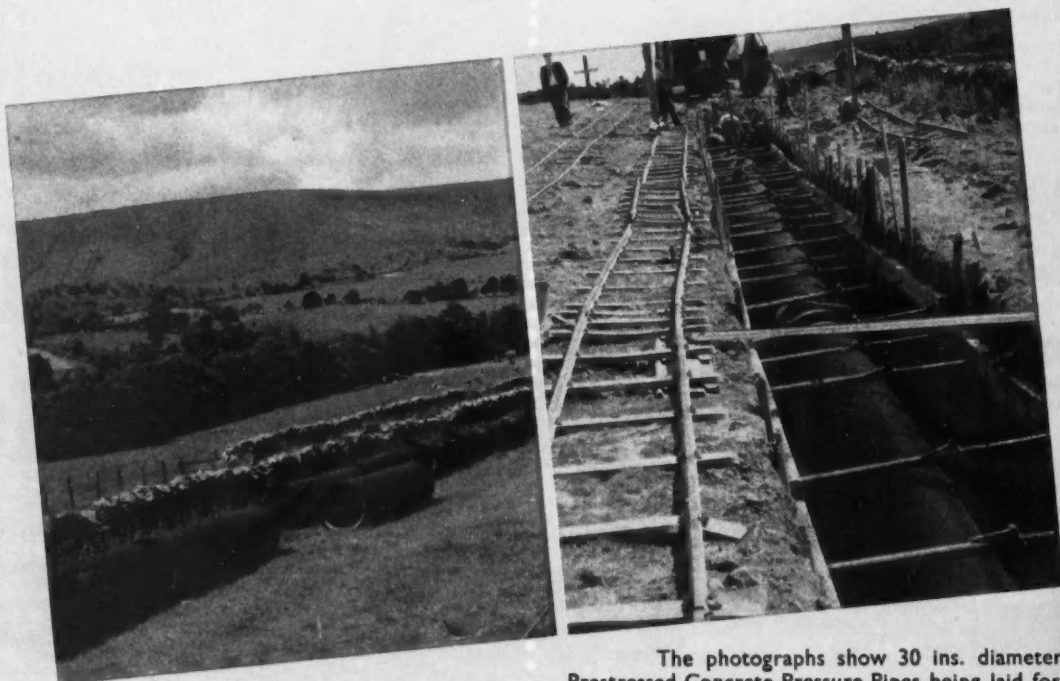
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Low permanent pumping
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The photographs show 30 ins. diameter Prestressed Concrete Pressure Pipes being laid for the Fylde Water Board from the Hodder Valley to Blackburn.

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SITE AGENT SAYS OF M-F UNIT:

*'Moves quickly,
works fast on a
crowded site'*

By Ken Court

BOTH ends of Turriff Construction Corporation's M-F unit are being kept busy on the Hartshead Power Station Extension at Stalybridge in Cheshire.

A new 275 thousand volt sub station and a 132 thousand volt switch house are being built for the Central Electricity Generating Board. Turriff have been on the site since August 1959 doing foundation work, all the superstructure for the switch house and structures for the substation.

Mr. L. H. Howell, resident civil engineer for the Central Electricity Generating Board, explained the reason for building the power station extension.

"The basic function of the 275 KV sub station and the indoor 132 KV major transforming and switching station is to import electricity at 275 thousands volts from the National Super Grid, transform it down to 132 thousand volts and to switch it into numerous feeder stations on the east side of Manchester.

"This sub station supplements the electricity supplies of the major load centres of the north-west."

Mr. B. S. Haslam, Turriff's site agent, said: "We have built the sub station including the control building and the oil plant building and switch house.

"These have been all pre-cast units, with in situ con-

crete joints. We have done all the brickwork inside the buildings and all the ancillary works.

"The machine was brought on the site and will work here for two months. The digger has been excavating 300 feet of cable ducts eight feet wide by 18 inches deep. It has excavated bases for electrical equipment, the base of a new stores building, and a transformer skidway—a concrete ramp for positioning transformers. The loader has been used for site grading and loading lorries.

"The unit is a very good machine with ample power in it. It is very manoeuvrable—a most important factor on this site where we are going in and out of existing trenches and buildings.

"The independent stabiliser feet are a very good feature of the digger. With its power and manoeuvrability it can move quickly and work fast round a large crowded site.

"The operator, Michael Smyth, went to the M-F School at Stoneleigh and has only been using the machine since it came on this site. He has become so proficient that he will travel the country with the unit as its only operator.

"A dumper driver when he first joined the Company, he has used the other makes of tractor mounted diggers and considers this one to be the best."



Turriff Construction Corporation's M-F unit working on the Hartshead Power Station Extension at Stalybridge in Cheshire.

THIRTY-ONE MILES OF DRAINAGE DITCH ON BRISTOL MOTORWAY



An offset digger essential

THIRTY-ONE miles of open tapered ditch is just one of the job's being done by three M-F 710 diggers on the southern section of the Bristol-Birmingham Motorway.

Mr. W. Hillman, of A. Monk and Co., the Warrington civil engineers and Contractors, controls the plant on the southern section of the Motorway which runs from Offerton canal north east of Worcester to join the existing Ross Spur Motorway.

"The first job," he said "was to find a machine to cut a tapered drainage ditch at the foot of the batters which occur in places along each side of the Motorway which in this section is fifteen and a half miles long. Part of the ditch is open and part carries drainage pipes and is back-filled.

"There are three of our 710 units in this section but we had six more on hire before we bought our own. We chose these units partly because of their ability to work close to embankments and fences by offsetting the boom for flush digging—an essential for this kind of work."

Deep mud

"They have worked under very extreme and arduous conditions. In deep mud they have been able to lift themselves out of trouble using the buckets each end. They work in all weathers in all sorts of site conditions."

The first 710 went on to the Motorway last June as an

experimental machine. Four machines worked through last summer and these were cut down to two during the winter months when all work on the Motorway was of necessity reduced. The present machines have been working full time since Easter and will continue working until later in the year."

Added Mr. Hillman: "The 710 units are cutting ordinary trenches for drainage across the motorway. They also excavate trenches for cable diversions. And the front ends have been busy loading crushed concrete."

Three of the 710 operators and one supervisor went on a three-day course at Stoneleigh to learn to use the equipment and found the course extremely interesting and informative."

SET YOUR DATE FOR A DEMONSTRATION

THE complete range of new Massey-Ferguson equipment, which was seen for the first time in public at the International Construction Equipment Exhibition at the Crystal Palace in London, can be seen by you in your local M-F industrial distributor's show-rooms.

Better still, you give him a date and he will demonstrate on your site.

PLANT AND MACHINERY WANTED—FOR SALE—FOR HIRE

(Continued from page 1012)

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 4-ton Jones KL44 Diesel Mobile Cranes, on pneumatics, 30/45ft. Straight Lattice Jibs.
 Smith 21, approx. 10-ton capacity Crawler-mounted Cranes, 70ft. Box Lattice, with 10ft. Fly Jibs also available.
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One JET CONVEYOR, 1957, Enfield Diesel Engine, Machine No. 1C/D, in good condition, £150.
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 New Bray four-wheel-drive and two-wheel-drive Shovels always in stock.

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FRAME, with Diesel Winch and Turntable, etc. Well under list price.

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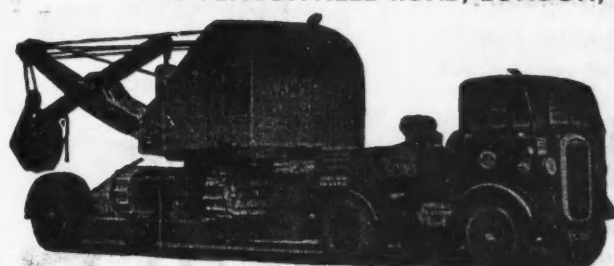
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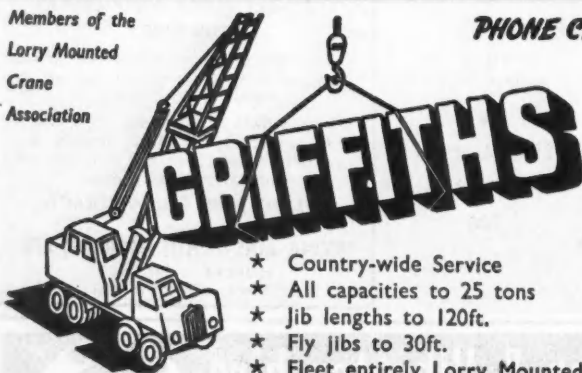
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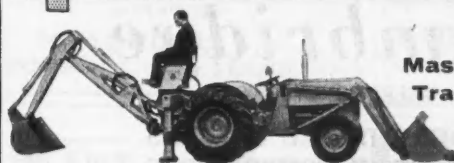
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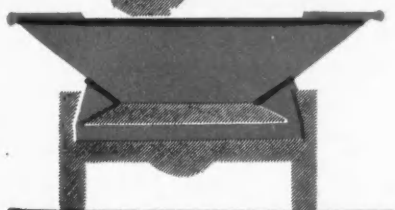
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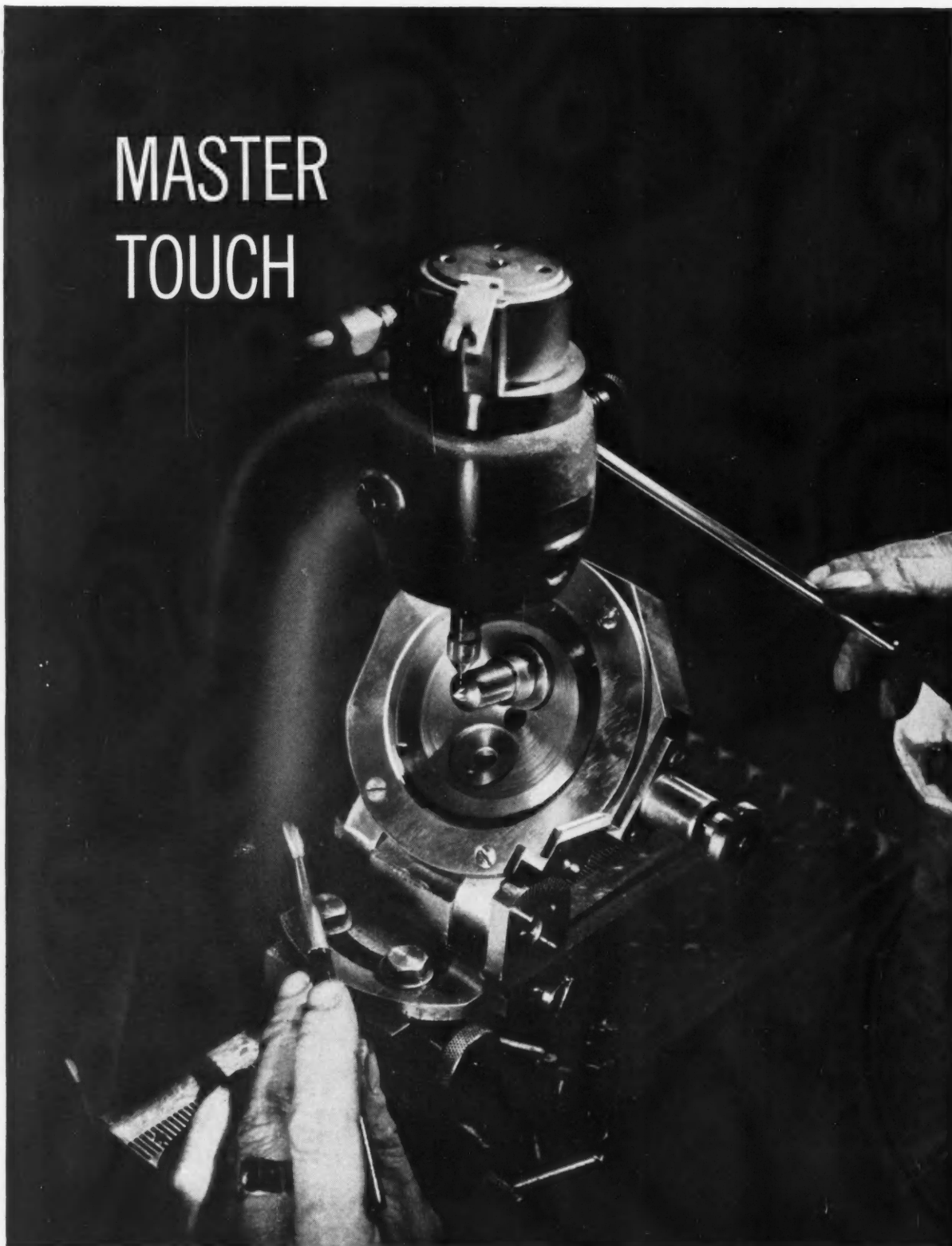
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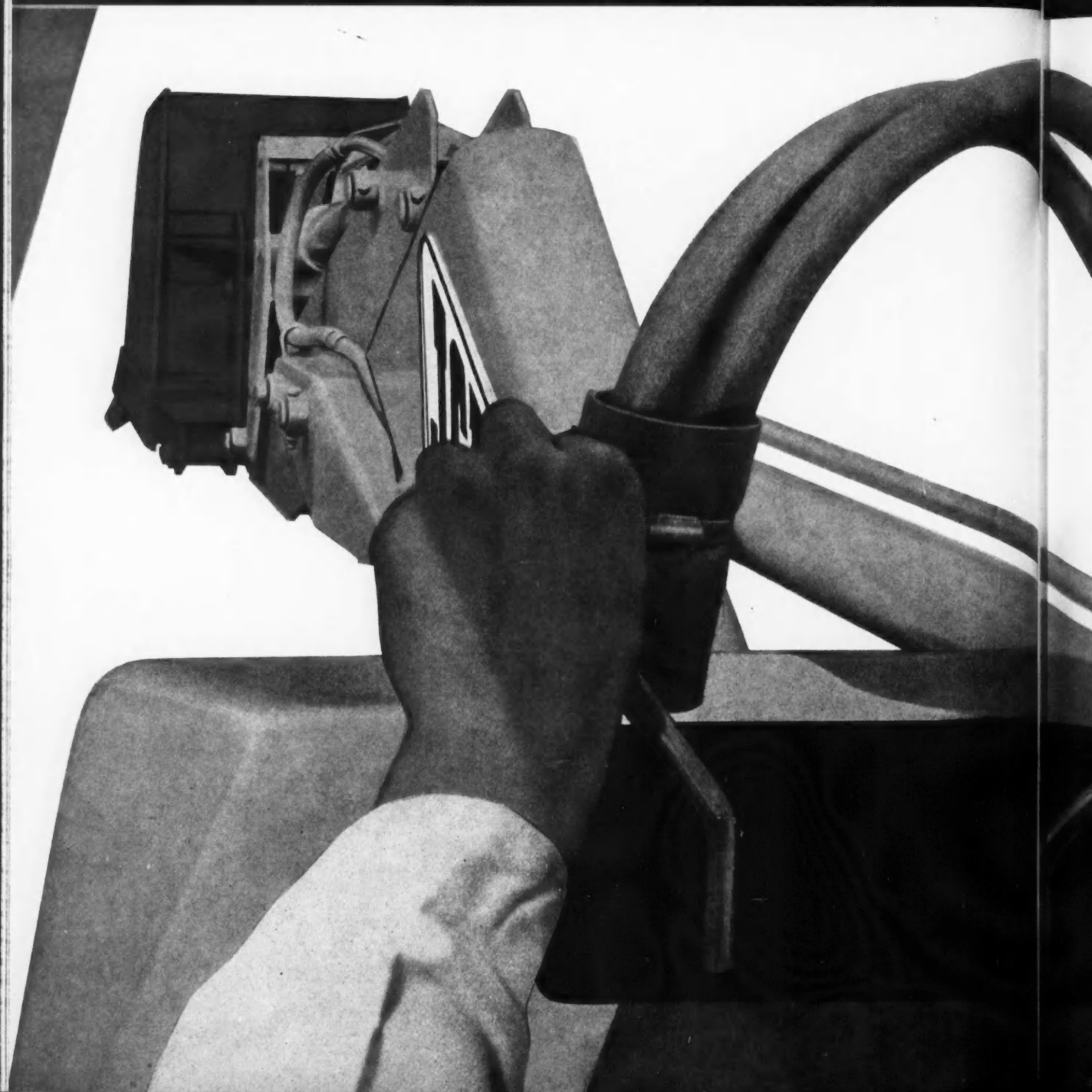
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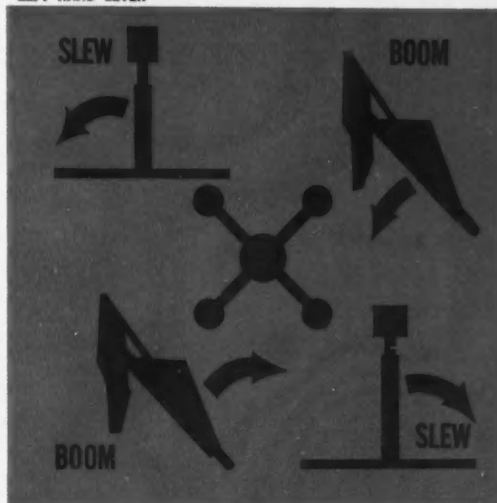
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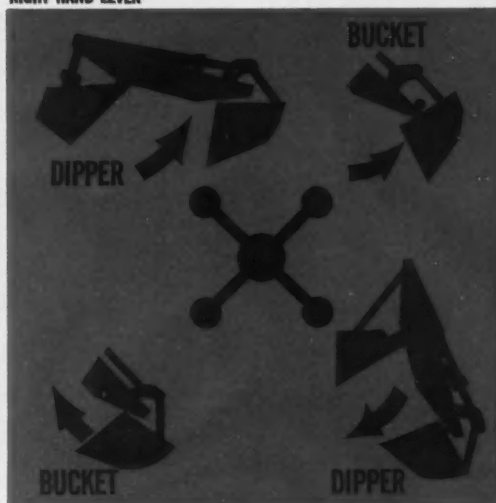
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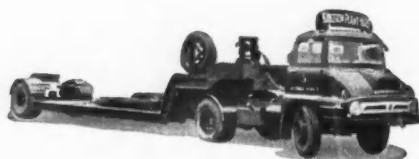
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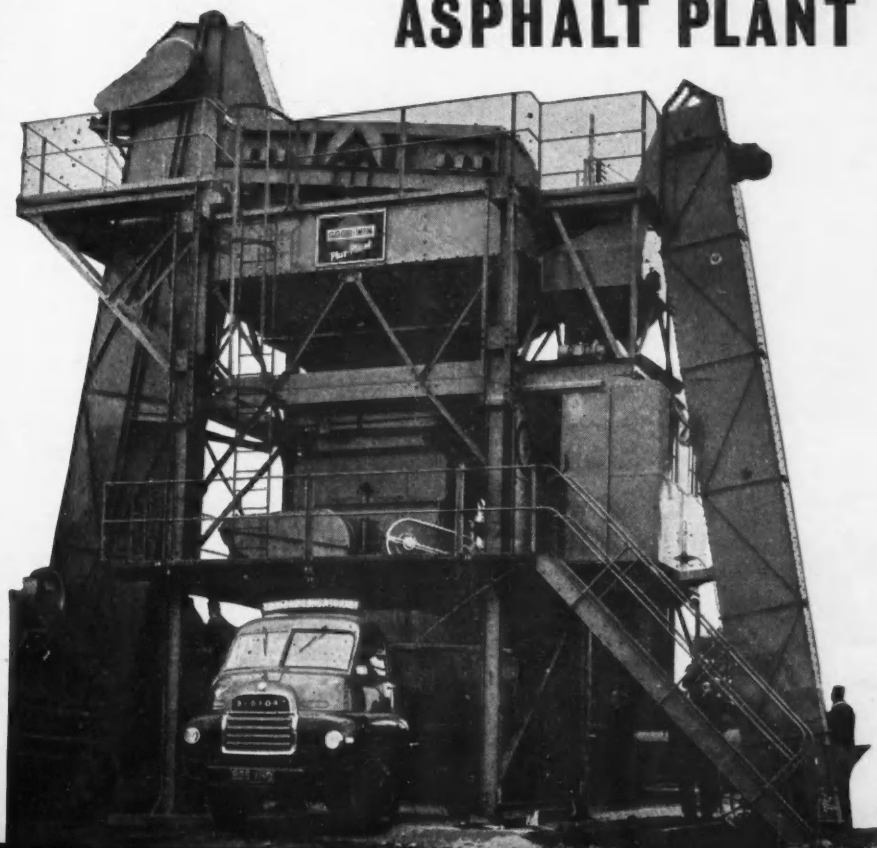
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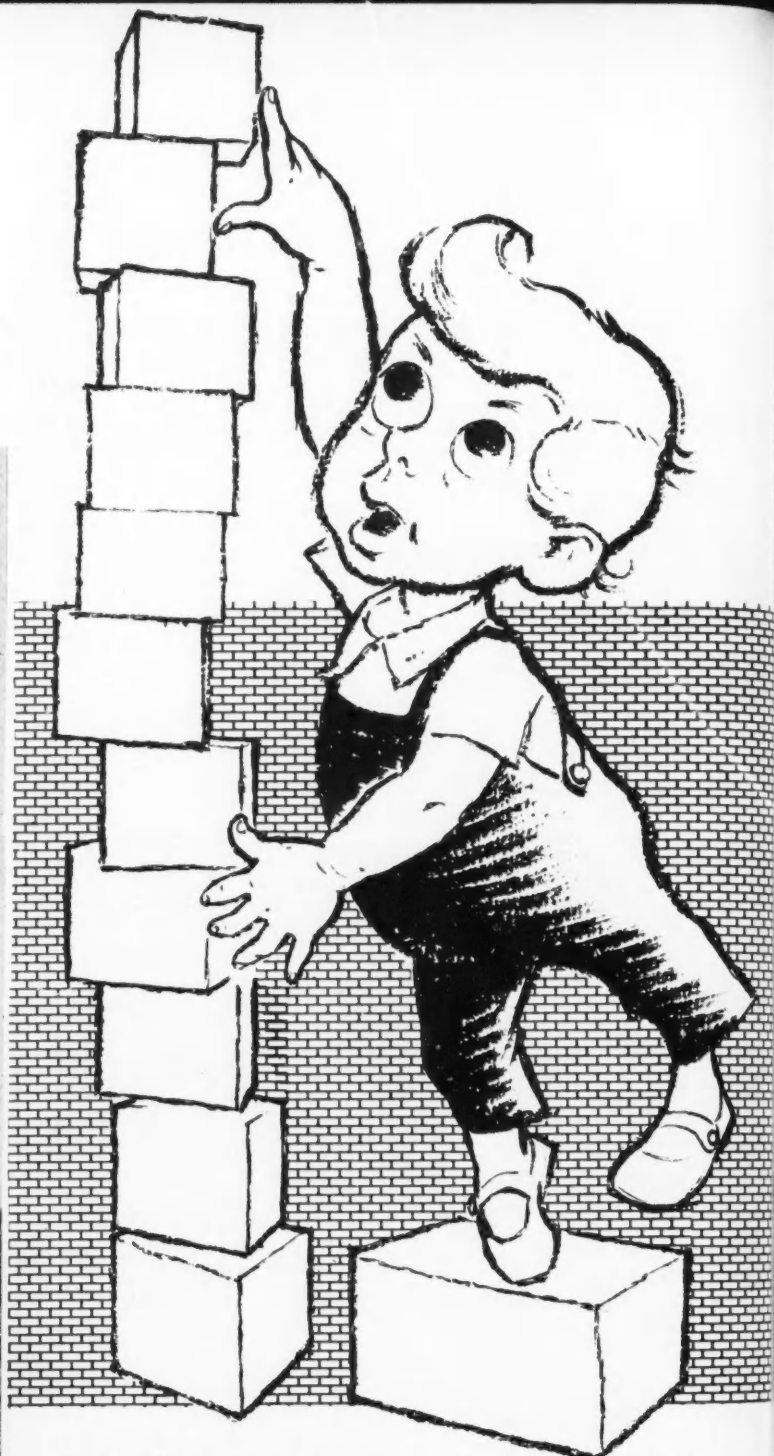
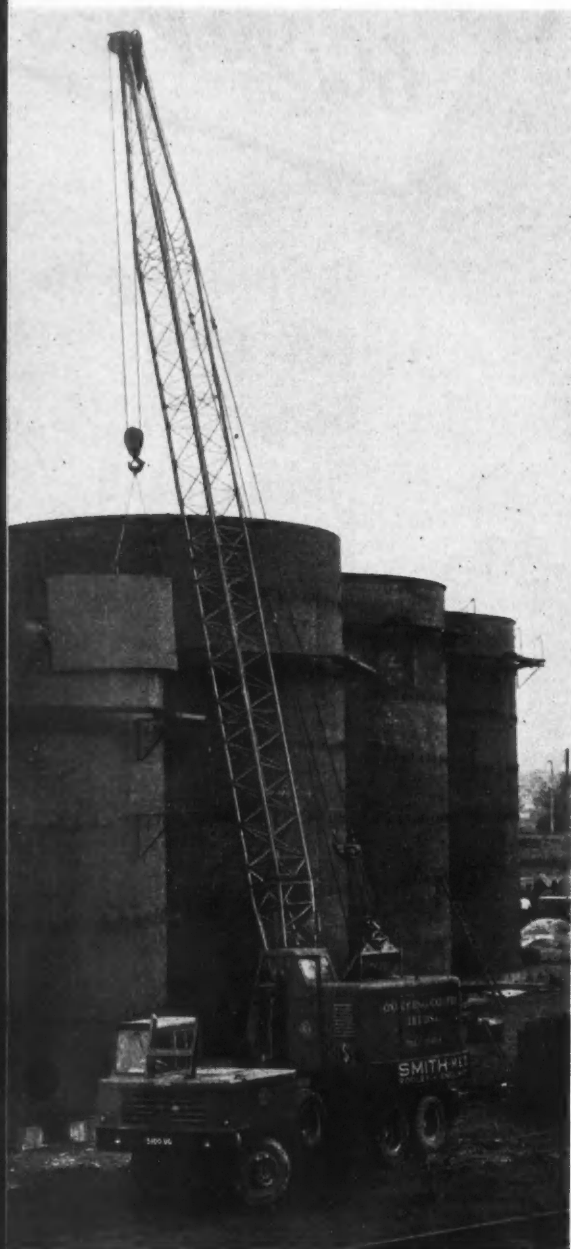
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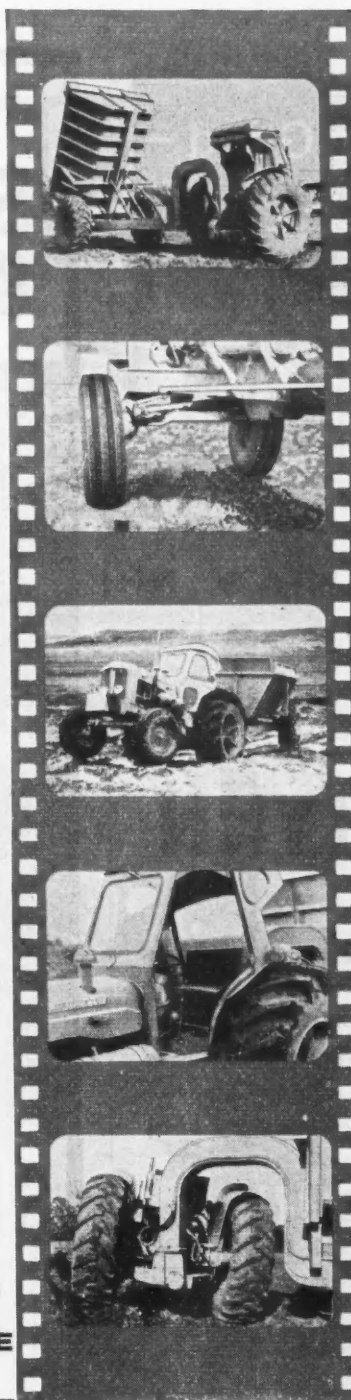
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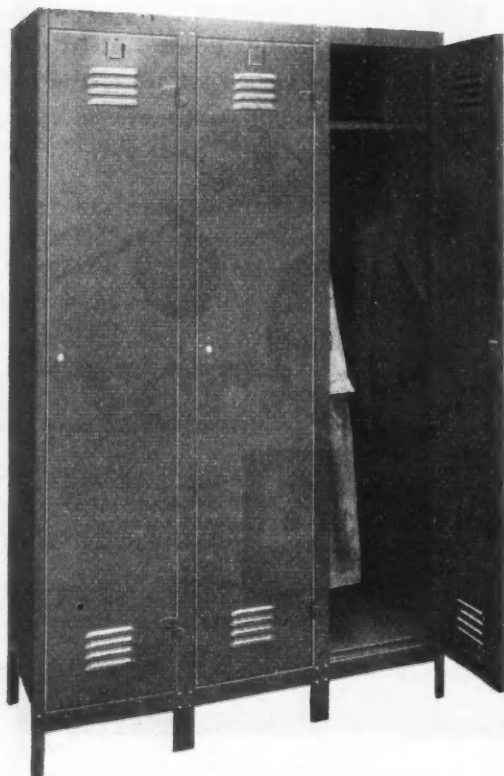


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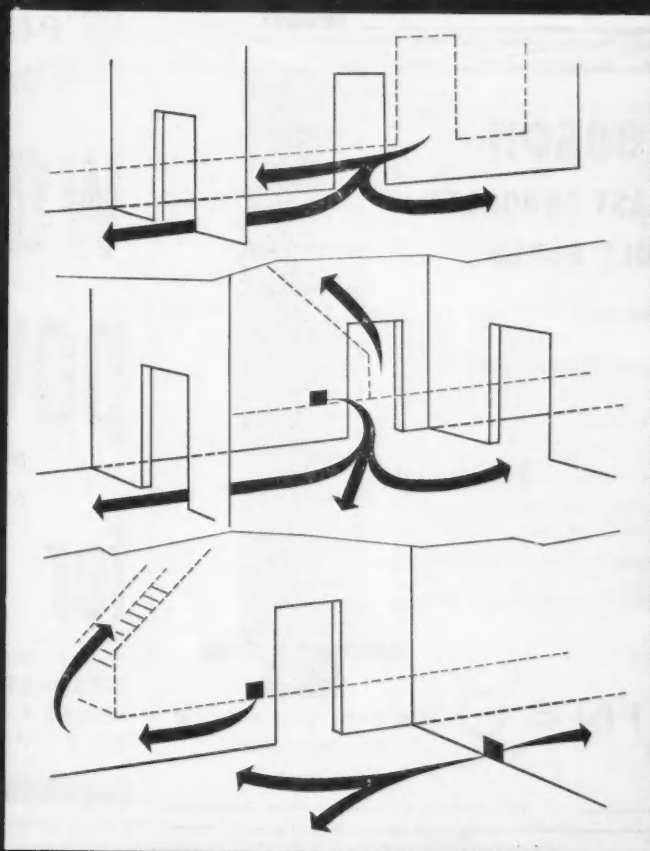
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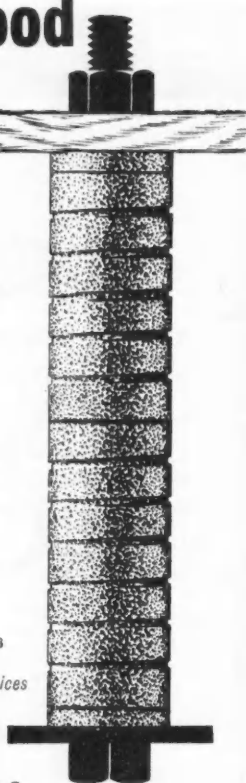
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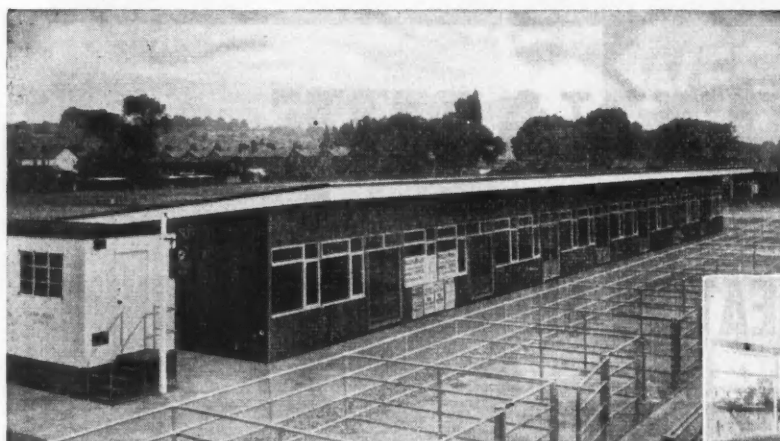


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HALL AND CO., LTD., Manor Road, Romford. (Tel.: Romford 42321.) Pits at Upminster, Boreham and Linford. Gravel aggregates, concrete, plastering and building sand.
HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)
HUNNABLE, F. A., AND SON, LTD., 1-99 Road, Braintree, Essex. (Tel.: Braintree 151 and 1251.) Graded washed stone, 1/4 in. to rejects; washed concrete sand and washed soft building sand. Classified sand for asphalt. Ready mixed concrete and gravel. Pits at Braintree, Bocking, Bossey End, Hedingham and Althamstone.
KENRICK, W., LTD., 92 Waterloo Road, Romford, Essex. (Tel.: 42481/2.) Supply and deliver all grades of sand, ballast and shingle, asphalt grits, granite aggregate. Rubbish clearance. Tip available at Upminster.
LEIGH BUILDING SUPPLY CO., LTD., Head Office: 956 London Road, Leigh-on-Sea, Essex. (Tel.: 78264—5 lines.) All grades washed materials, building sand, hardcore, ashes, bricks, granite.
PETERS AND BARNHAM, LTD., 309 South Street, Romford. (Tel.: Romford 411—7 lines.) Washed and crushed gravel, all sizes; Sand Pits at Asheldham, Chigwell St. James, Dagenham, Great Waltham, North Oxendon, Roswell, West Thurrock, Romford and Thorpe-le-Soken.
PINCH, L. A. AND A., LTD., Upper Rainham Road, Elm Park, Hornchurch, Essex. (Tel.: Hornchurch 4892/3/4.) Haulage, all aggregates and excavation.
READ, P. T., LTD., Fairlop Alford, Forest Road, Romford. (Tel.: Hainault 6111/2/3.) High-grade sands, ballast and shingles supplied and delivered; also ready-mixed concrete.
ST. ALBANS SAND AND GRAVEL CO., LTD., Lords Colney, St. Albans, Herts. (Tel.: Boremans-green 2271.) Pits at Meadgate Road, Nazing. Station Road, Waltham Abbey.
ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4 and Halstead 2323.) Pits at St. Ives and Gosfield, near Halstead.
STANWAY CONTRACTS, LTD., Upper Edwards Hall, Eastwood, Southend-on-Sea. (Tel.: Eastwood 55161.) Sand and gravel pits at Rochford and Woodham Water. Graded aggregates supplied or delivered.
WIVENHOE SAND, STONE AND GRAVEL CO., LTD., Wivenhoe, near Colchester, Essex. (Tel.: Wivenhoe 231.) High quality washed aggregates of all grades.

GLOUCESTERSHIRE

BENGRIY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)
COKE, T. F. (CHELTENHAM), LTD., 267 Gloucester Road, Cheltenham. (Tel.: Cheltenham 4717/4874.) Sand, graded gravel aggregates, hardcore, limestone, chippings, tarred and bituminous limestone, concrete blocks, slabs, etc.
CROMHALL QUARRIES, LTD., Cromhall, Wotton-under-Edge, Glos. (Tel.: Fairfield 346/7.) Concrete aggregates, pre-graded in large quantities. Tarmacadam, tarpaving, bituminous macadam and cold asphalt to B.S. for hand or machine laying.
GRIFFITHS, A., AND SONS, Churchdown, Gloucester. (Tel.: Churchdown 3135 and 2216.) Pit, quarry and dredger owners. All grades and types aggregate materials.
HALL AND CO., LTD., Longmoor House, Ashton Vale Road, Bristol, 3. (Tel.: 63001.) Gravel aggregates, concrete, plastering and building sand.
HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)
NORTH WILTS. QUARRYING CO., Noble Street, Sherston, Wilts. (Tel.: Sherston 321—3 lines.) (For details see entry under Wiltshire.)
SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Dours" Facing, flagging and Common Bricks in terra-cotta, red and golden brown. Concrete aggregates, reas, stones, and Dolomite media.
TAYNAC, LTD., Wootton Bassett, near Swindon, Wiltshire. (Tel.: Wootton 391/2-3 lines.) Cotswold stone, hardcore, washed and graded aggregates, building sand.

Rates for insertion in this GUIDE will be forwarded on application

CONTRACTORS' GUIDE TO AGGREGATES

GLOUCESTERSHIRE

WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel.: Coleford 3158/9.) Tinned and bituminous limestone macadam, asphalt, concrete aggregates, dolomitic media, engineering, facing and common bricks for all purposes. Delivery road or rail.

HAMPSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

BULL BROS., S. AND L., LTD., 126A High Street, Winchester. (Tel.: 2264.) Concreting aggregates (reconstituted, pit-mixed, wellbatched to meet any specification); also ballast, hoggin, path gravel and sand from own pits at Fawley, Lockerley, Ringwood, Romsey, Sway and Totton.

DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMSTEAD 8044/8.) For all road aggregates, kerbs, setts. (See London.)

HALL AND CO., LTD., Baltic Wharf, Marine Parade, Southampton (Tel.: Southampton 21234), and at Portsmouth. Pits at Ringwood, Highbridge and Fawley. Gravel aggregate, concreting, plastering and building sand.

HASKINS, G., AND SONS, Queen Street, Emsworth. For washed sand and graded aggregates, path and road gravels, hoggin, clinker, ashes. (Tel.: Emsworth 2271.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

MOREYS (VERWOOD), LTD., Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggin, path gravel.

NEW MILTON SAND AND BALLAST CO., Lymington Road, New Milton, Hants. (Tel.: 37 and 566.) Guaranteed uncrossed, washed, screened and graded concrete aggregates. All sizes. Washed sharp and fine sands.

NORTH WILTS. QUARRYING CO., Noble Street, Sherston, Wilts. (Tel.: Sherston 321—3 lines.) (For details see entry under Wiltshire.)

PRIVETT, W. G., AND SONS, LTD., Grayton Lane, Portsmouth. (Tel.: Cosham 70059.) Concrete aggregates, building sand, hoggin, ashes, washed and graded filter media, etc.

ALPH OF BASINGSTOKE, LTD., 37 Kempshott Lane, Basingstoke, Hants. (Tel.: 85.) Concrete aggregates, building sand, path gravel, hoggin, etc.

WICKENHAM GRAVEL CO., LTD., Ship Lane, Farnborough (Tel.: 1126.) Sandhurst Road, Yateley (Tel.: 2230.)

HEREFORDSHIRE

BENGRI AND SONS, LTD., Lomenor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) Suppliers of all grades of crushed concrete aggregates, road metalling, pitching stone, hardcore and coated macadam.

OVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

NASH ROCKS, LTD., Prestelgne, Radnor. (Tel.: Prestelgne 352.) All grades of tarred and bituminous macadam, roadstone, chippings and concrete aggregates, etc.

OLD RADNOR TRADING CO., LTD., Radnor. (Tel.: 421.) Granite and limestone aggregates, coated macadam, concrete products.

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel.: 961), Salop.

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. Concrete aggregates, roadstones, and Dolomitic media.

WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel.: 3158/9.) (See Gloucestershire.)

HERTFORDSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMSTEAD 8044/8.) For all road aggregates, kerbs, setts. (See London.)

EASTWOODS SALES, LTD., Eastwood House, City Road, E.C.1. (Tel.: Clerkenwell 2040.) Broxbourne pit. (Tel.: Morden 2456.) Producers and distributors of all grades of washed aggregates.

GABRIEL, C., LTD., Palmers Lane, Enfield, Middx. (Tel.: HOWARD 4351/2/3.) Washed aggregates and building sand. Pits at Hertford and Enfield.

HALL AND CO., LTD., Railway Yard, Orchard Road, Stevenage (Tel.: 775), and at Hatfield. Gravel aggregates, concreting, plastering and building sand.

HARTIGAN, G. F. X., LTD. (See Buckinghamshire.)

ST. ALBANS SAND AND GRAVEL CO., LTD., London Colney, St. Albans, Herts. (Tel.: Bowmans-green 2271.) Pits at Smallford Lane, Smallford, and Bramfield Lane, Watford, Marsh Road, Stanstead Abbots.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)

WICKENHAM GRAVEL CO., LTD., Eleanor Cross Road, Waltham Cross. (Tel.: 23388.)

WEBB, G., CAMBRIDGE, 35 Magrath Ave., Cambridge. (Tel.: 59966, 53969, 50353 (night).) (See Cambs.)

WINFIELD HENRY, LTD., Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamsted 1208/9.) Pits at Hemel Hempstead, Watford, West Hyde, Rickmansworth. Concrete aggregates, hoggin, building sand.

HUNTINGDONSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

FERRERS AND AGGREGATES, LTD., Northampton Road, Rushden (2351/5). (See Northants.)

GRAVEL PRODUCTS (HUNTS.), LTD., Little Paxton, St. Neots, Hunts. (Tel.: St. Neots 308.) Pits at Little Paxton, St. Neots, Hunts; and Blunham, Beds.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

NINE BARGE AND LIGHTER CO., LTD., Market Chambers, Peterborough (Tel.: 5334/5.) Middx. End Quarries, Wansford, near Peterborough (Tel.: Wansford 384/5.) Roadstone, hardcore, broken stone, ballast, ashes, silica clay and sand.

HUNTINGDONSHIRE

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) Producers of all grades of washed sand and gravel. Ready mixed concrete. Precast concrete pipes. (See description.)

WEBB, G., CAMBRIDGE, 35 Magrath Ave., Cambridge. (Tel.: 59966, 53969, 50353 (night).) (See Cambs.)

KENT

BRASTED SAND PITS, Brasted, Kent. (Tel.: 586.) London Office: 10A Ellery Street, S.E.15. (Tel.: New Cross 3337.) Soft and plastering sands, lime and sand-mix dry, hardcore, S.H. bricks, ashes, etc.

BROWN BROS. (SITTINGBOURNE), LTD., Chalkwell Road, Sittingbourne, Kent. (Tel.: Sittingbourne 533.) Sand, ballast, shingle, hoggin, hardcore, clinker, chalk, etc.

CLUBB, J., LTD., Dartford, Kent. (Tel.: Dartford 25431.) Pits in North Kent, Medway area and Sevenoaks district. All washed and crushed gravel aggregates, concreting and building sand.

DIAMOND TREAD CO. (1938), LTD., Ditton Court Quarry, Larkfield, near Maidstone. (Tel.: West Malling 3444.) Quarry owners, tarmacadam, bituminous macadam and dry road stone manufacturers and suppliers. Head Office: 21-22 Old London Road, E.C.4. (Tel.: City 7001—10 lines.)

DIAMOND TREAD (CHART) LTD., Swan Lane Quarries, Little Chart, Ashford, Kent. Quarry owners; tarmacadam, bituminous macadam and dry roadstone suppliers. All inquiries to Area Office: Ditton Court Quarry, Larkfield, near Maidstone, Kent. (Tel.: W. Malling 3444.)

HALL AND CO., LTD., Canning Street, Maidstone. (Tel.: Maidstone 51051); and at Folkestone and Hayes. Pits at Lunsford, near Larkfield, Riverhead. Gravel aggregates, concreting, plastering and building sand, Surecrete precast-mixed concrete.

HARRIS, M. P., AND CO., LTD., Station Road, Paddock Wood, Kent. (Tel.: 585.) (See Sussex.)

TILBURY CONTRACTING AND DREDGING CO., LTD., Postley, Maidstone. (Tel.: Maidstone 55401/2/3.) Suppliers of tarred, bituminous and dry Kentish rubble, sea walling, asphalt filters. Scotch granite and kerbing.

LANCASHIRE

BROOMBYS, LTD., Sandside, Milnthorpe. (Tel.: 3251/2.) Westmorland. (See Westmorland.)

BUCKTON QUARRY, Broken stone, all grades. (Tel.: Mossley 123.) Or write Main Road, Oldham.

CASLETON SAND AND GRAVEL QUARRIES, LTD., Trows Lane, Casleton, near Rochdale. (Tel.: Casleton 57100.) Lee Quarries, Bacup. (Tel.: Bacup 287.) Washed pit sand, crushed washed stone aggregates, pitching stone, etc.

CROXDEN GRAVEL, LTD., Cheadle, Stoke-on-Trent, Staffs. (Tel.: Tean 393.) Manchester Office: Blackfriars 3766/7. Plant capacity, 2,000 tons per day.

HARTLEY, JOHN W., LTD., Lundfield Quarry, Carnforth, Lancs. (Tel.: Carnforth 100.) Large producers of high quality washed sands, clean washed natural pebble and crushed gravel aggregates for all construction purposes.

HILTON GRAVEL, LTD., Rice Street, Liverpool Road, Manchester 3. (Tel.: 4648/9 and 5486.) Quarries at Cheadle, Staffs. (Tel.: Tean 241.) And at Longton, Stoke-on-Trent. (Tel.: Longton 32196.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

HULLAND GRAVEL CO., LTD., Cheadle, Stoke-on-Trent. (Tel.: Cheadle 2323/4, 2119 and 2195.) Manchester Office: Rose, Chorlton, Manchester, 21. (Tel.: Chorlton 2274/5.)

KELMAC, LTD., 54 Deepdale Road, Preston, Lancashire. (Tel.: Preston 8468/9.) Bituminous tarred and waterbound macadam. Dry roadstone, sized and graded limestone aggregates. All to B.S. and M. of T. Specifications.

PERMAHAWK AND WELSH GRANITE CO., LTD., all sizes and gradings of crushed granite aggregate. Immediate delivery ex stock. Liverpool and Preston Depots: Office: 7 Piccadilly, Liverpool, 18. (Tel.: Sefton Park 7251.) Manchester Depot: Office: Cornbrook Road, Manchester, 18. (Tel.: Trafford Park 4830.)

TERN HILL SAND AND GRAVEL CO., LTD., Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 2612/3.) (See Staffs. for details.)

TRENTHAM GRAVEL CO., LTD., Lonsley Quarries, Villoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concrete sand. Plant capacity: 2,000 tons per day.

WITHERS LIMESTONE, LTD., Black Lane Quarry, Carnforth. (Tel.: Carnforth 327.) Graded limestone aggregate to B.S.S. all sizes. Immediate delivery ex stock.

X.I. GRANITE (INGLETON), LTD., Head Offices: Clapham, via Lancaster. (Tel.: Clapham 318/9.) Works Tel.: Ingleton 231. All sizes and gradings of Ingleton granite aggregate.

LEICESTERSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) Best Leicester-shire grey granite, dry and coated gradings to any specification, cold asphalt and wet mix. Prompt rail/road delivery.

CLIFF HILL GRANITE CO., LTD., Markfield, near Leicester. (Tel.: Markfield 5612/3.) Granite aggregates to B.S.S. All sizes. Tarred and bituminous granite, concrete slabs and kerbs. Lined washed granolithic aggregates.

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 5053.) (See Northamptonshire.)

ENDERBY AND STONEY GRANITE CO., LTD., 21 New Walk, Leicester. (Tel.: 20891.) Quarries at Enderby. London Offices: 29 Dorset Square, N.W.1. (Tel.: Amb. 1141.)

HILTON GRAVEL, LTD., Hemington Fields, near Shardlow, Derby. (Tel.: Shardlow 266.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

MOUNTSOREL GRANITE CO., LTD., 21 New Walk, Leicester. (Tel.: 20891.) Quarries at Mountsorel, near Loughborough. Lined pink granite a specialty. London Office: 29 Dorset Sq., N.W.1. (Amb. 1141.)

LEICESTERSHIRE

WANLIP GRAVELS, LTD., Wanlip Road, Syston, Leicester. Any size or grading, scientifically balanced ballast. All to B.S.S. (Tel.: Syston 2327 and 2797.)

WREAKE VALLEY GRAVELS CO., LTD., Melton Mowbray. (Tel.: Pit—Rotherby 205 or head office Melton 2458.) All grades washed aggregates and sand, transit mixed concrete.

LINCOLNSHIRE

CONINGSBY SUPPLY CO., LTD., Registered Office: The Broadway, Woodhall Spa, Lincs. (Tel.: Woodhall Spa 2322.) Screened limestone, hardcore, pitching, filling, flint, hoggin. Ex quarries or delivered.

DOW-MAC (PRODUCTS), LTD., Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)

EAST MIDLANDS BUILDERS' SUPPLY CO., 21 Castle-dyke West, Barton-on-Humber, Lincs. (Tel.: Barton 2189.) All grades washed sand and gravel, roadstone, hardcore, washed silica sand.

GIBBONS, F. B., AND SONS, LTD., Registered Office: Welby House, Market Deeping, near Peterborough. (Tel.: Market Deeping 3557.) Pits at Lang-pit, near Peterborough. (Tel.: Market Deeping 2210.) All grades washed sand and aggregates.

HARTSHOLME GRAVEL AND SAND CO., LTD., Hartsholme Wood, Doddington Road, Lincs. Sole selling agents: Hartsholme Sales, Ltd., 17 West Parade, Lincoln. (Tel.: Lincoln 23391.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

HURDIS, J. W., LTD., Victoria Street, Grimsby (Tel.: Grimsby 3657), and Caistor. (Tel.: Caistor, Lincs. 281.) Building, plastering, concreting sand; also gravel, ballast, hoggin & roadmaking materials.

PETERBOROUGH QUARRIES, LTD., Sanvianes, Mayev, Peterborough. (Tel.: Market Deeping 2355—3 lines.) Quarry at Rostley, all grades of hardcore and broken stone. (See also Northants.)

POLLARD, C., AND SON (TALLINGTON), LTD., Welby House, Market Deeping, Lincs. (Tel.: Market Deeping 2140.) All grades washed sand and aggregates. For "Supercrete" ready mixed concrete, phone Market Deeping 3132.

TRENTFORD GRAVELS, LTD., Head Office: Deansgrove, Grimsby. (Tel.: Grimsby 5354.) Washed and graded gravel and sand, roadstone, hardcore, slag, tarmac, ashes, etc. Pits and quarries throughout the county.

LONDON

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

SUCBRICKS COMPANY, LTD., 57 Piazza Chambers, Covent Garden, London, W.C.2. (Tel.: Covent Garden 0534.) All grades of washed aggregates, sand, building sand, asphalt, grit. Sterilised dry sand accurately graded to buyers' requirements.

COX, H., AND SONS, LTD., 33 Southampton Way, Camberwell, S.E.5. (Tel.: Rodney 2215—3 lines.)

DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, N.W.3. (Tel.: HAMSTEAD 8044-8.) Granite limestone or slag, coated or dry, all sizes and pitching, granite kerb and setts, felspar quarries and other minerals for road or rail or ex London stock.

DORSET LIMESTONES, LTD., Bumpers Lane, Easton, Portland, Dorset. (Tel.: Portland 2207/8.) (For details, see Dorset.)

DRINKWATER, W. W. (WILLESDEN), LTD., Dudden Hill Lane, Willesden, N.W.10. (Tel.: GLADSTONE 6400/5.) Pits: Rush Green, Denham, Bucks. (Tel.: Denham 2241/2/3.) Also Staines Road, Hounslow Heath, Middlesex. (Tel.: Hounslow 6222/3.)

GABRIEL, C., LTD., Palmers Lane, Enfield, Middx. (Tel.: HOWARD 4351/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.

GREENHAM SAND AND BALLAST CO., LTD., Chertsey Road, Feltham. (Tel.: Feltham 2285/7.) Pits at Hounslow, Feltham and Staines. Concrete aggregates, plastering and building sand.

HALL AND CO., LTD., Chantry House, Eccleston Street, S.W.1. (Tel.: Sloane 7122), and at East Dulwich, Poplar and Wandsworth. Gravel aggregates, concreting, plastering and building sand.

HARTIGAN, G. F. X., LTD., Washed sharp sand to B.S.S. 882. (See Buckinghamshire.)

KEEN, W. J., AND SONS, 18 Granville Road, Epsom, Essex. (Tel.: Epping 2520.) All sands, ballasts. (See Essex.)

LONDON BALLAST CO., LTD. (Tel.: Paddington 5064.) 155A Porchester Terrace North, Paddington, W.2.

READ, P. T., LTD., Gales Gardens, Bethnal Green, E.2. (Tel.: Shoreditch 9128/9.) All sands, ballast and shingles supplied and delivered; also ready mixed concrete. Pits: Fairlop Airfield, Forest Road, Ilford, Essex. (Tel.: Hainault 6111/2/3.)

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

MERIONETHSHIRE

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington. (Tel.: 961), Salop.

MIDDLESEX

CROSS GEO. C., AND CO., LTD., Uxbridge Road, Southall. (Tel.: Southall 2264/5/6.) Concrete aggregates, hardcore, excavations, demoliitions.

DRINKWATER, W. W. (WILLESDEN), LTD., Staines Rd., Hounslow Hth., Middx. (Hounslow 6222/3.)

GABRIEL, C., LTD., Palmers Lane, Enfield, Middx. (Tel.: HOWARD 4351/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.

GREENHAM SAND AND BALLAST CO., LTD., Chertsey Road, Feltham. (Tel.: Feltham 2285/7.) Pits at Hounslow, Feltham and Staines. Concrete aggregates, plastering and building sand.

GRUNDON, S., 100/104, Harrington Road, Hillingdon, Middlesex. (Tel.: Uxbridge 3651/2/3.) Ss 6, ballast, shingle, hardcore, ashes, excavation and demolition.

HALL AND CO., LTD., Chantry House, Eccleston Street, S.W.1. (Tel.: Sloane 7122), and at Ashford and Brentford. Pits: Bedford and Shepperton. Gravel aggregates, concreting, plastering and building sand.

LONDON BALLAST CO., LTD. (Tel.: Paddington 5064.) 155A Porchester Terrace North, Paddington, W.2.

CONTRACTORS' GUIDE TO AGGREGATES

MIDDLESEX

TWICKENHAM GRAVEL CO. LTD., Feltham Hill Road, Hanworth. (Tel.: Feltham 2638.)
READ, P. T. LTD., Gales Gardens, Bethnal Green, E.2. (Tel.: Shoreditch 9128/9.) All sands, ballast and shingles supplied and delivered; also ready-mixed concrete. Pits: Edmonstone Gravel Pit, Montagu Road, N.9. (Tel.: Shoreditch 6128/9.) Fairlop, Airfield, Forest Road, Ilford (Tel.: Hainault 6111/2).
STUART MACEY, LTD., Gordon Rd., High Wycombe. (Tel.: Hales 261/2/3.)

MID-WALES

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)
NASH ROCKS STONE AND LIME CO. LTD., Presteligne, Radnor. (Tel.: Presteligne 352.) (See Herefordshire for details.)
OLD RADNOR TRADING CO. LTD., Quarries in Radnorshire. (Tel.: Kingston 421.) (See Herefordshire.)
SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel.: 961), Salop.
TERN HILL SAND AND GRAVEL CO. LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

MONMOUTHSHIRE

MONMOUTHSHIRE ASSOCIATED QUARRIES, LTD., Head Office: 38 Chepstow Road, Newport, Mon. (Tel.: Newport 58311/2.) Suppliers of all grades of concrete aggregates, road metalting, pitching stone, tarmacadam and bituminous macadam in limestone, dolomite and blue pennant stone. Quarries throughout the county.
SHAKEMANTLE QUARRY CO. LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Dours" Facina, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)
WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coloford, Glos. (Tel.: 3158/9.) (See Gloucestershire.)

MONTGOMERYSHIRE

NASH ROCKS STONE AND LIME CO. LTD., Presteligne, Radnor. (Tel.: Presteligne 352.) (See Herefordshire for details.)
SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington (Tel.: 961), Salop.

NORFOLK

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)
JOHNSON, P. C. H. LTD., Station Road, Terrington St. Clement, near King's Lynn. (Tel.: Terrington St. Clement 248.) Washed and screened gravel, roadstone, washed sharp and fine sands.
ST. IVES SAND AND GRAVEL CO. LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4 and 3 Cony. Weston Audley 391/2.) Pits at St. Ives and Nettleton, Herts. (Tel.: Nettleton 1208/9.) Roadstone, hardcore, broken stone, ballast, shingles, silica clay and sand.
THORPE GRAVEL PITS, LTD., Harvey Lane, Norwich. (Tel.: Norwich 33243/4.) Washed and graded aggregates, stone and gravel delivered to all parts of Norfolk and Suffolk.

NORTHAMPTONSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)
BICESTER STONE CO. LTD., Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 391/2.) Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.
MAYBROOK, E. W. LTD., Newton Road, Higham Ferrers, Northants. (Tel.: Higham Ferrers 3344 and 3345.) All grades of washed and graded aggregates to B.S.S., building sand, hardcore.
DOU-MAC (PRODUCTS), LTD., Tallington, Stamford. All grades of concrete aggregate and gravel. (Tel.: Market Deeping 2301.)
DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) Producers of building and walling stone, roadstone, hardcore, broken stone, ashes, sand, gravel and hoggins. Immediate delivery throughout Northamptonshire.
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DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth: 278 and 298; Duston 505.) (See Northamptonshire.)
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OLD RADNOR TRADING CO. LTD., Quarries in Radnorshire. (Tel.: Kingston 421.) (See Herefordshire.)
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KETTON STONE CO. (Prop. Andrew's Garage), Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.
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SHIRE OAK GRAVELS, LTD. (See Staffordshire.)

WARDLOW LIMESTONE, LTD., Cauldon Low, N. Staffs. (Tel.: Oakamoor 366.) (For details, see Staffs.)

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HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

KEVIN LIME CO., LTD., Oakamoor, Staffs. (Tel.: Oakamoor 385/386.) Clean graded dry limestone, all to B.S.S. sizes. Output 1,000 tons per day.

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

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GLEN QUARRIES, LTD., Central Chambers, Wellgate, Rotherham. (Tel.: Rotherham 5223.) Crushed and graded stone, concreting sand, building sand, plastering sand and crushed gravel could be collected ex quarry or delivered.

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April 6, 1961 to June 29, 1961.

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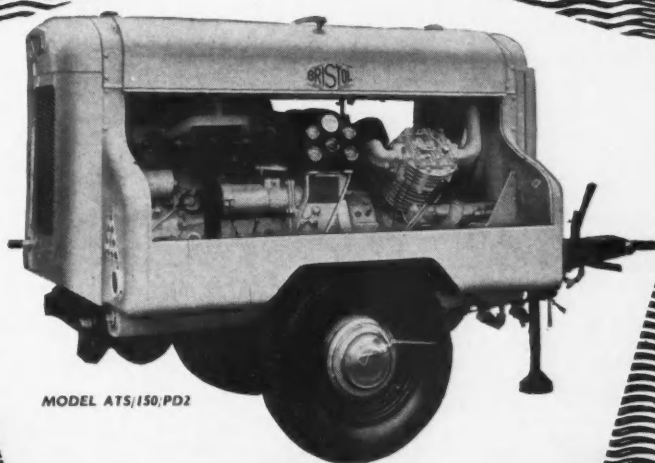
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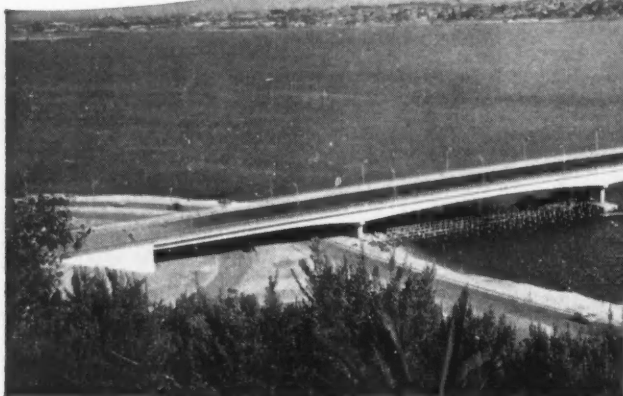
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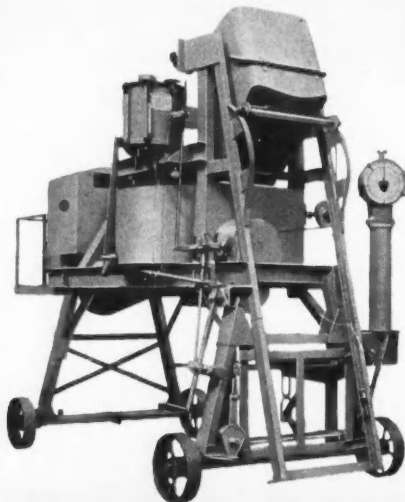
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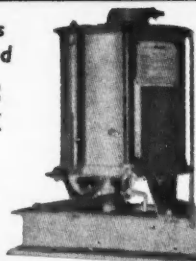
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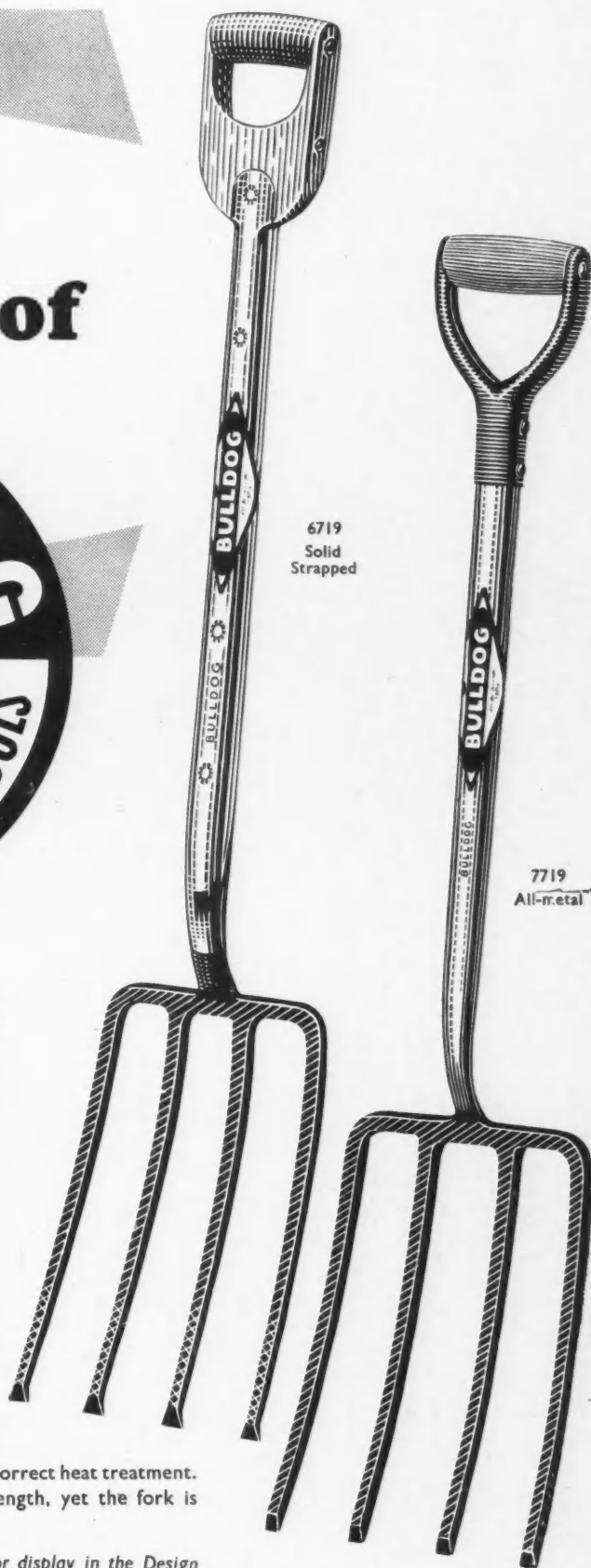
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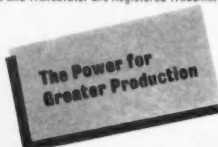
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